TABLE OF CONTENTS

1 Installation Instructions 1.1

1-1 Safety Notes 1-2

1-2 Detachable Items 1-5

1-2.1 Machine Modules 1-5

1-2.2 Machine Stands 1-5

1-3 Machine Assembly 1-6

1-3.1 Connecting the Units 1-6

1-3.2 PC Equipment 1-8

2 Description of Operation 2.1

2-1 General Description 2-2

2-2 Track Collation Description 2-2

2-3 Description of Insertion Head 2-3

2-4 Description of Insert Feeder 2-5

2-5 Description of Tower Folder 2-6

3 Service Operations and Adjustments 2.1

3.1 Health, safety & environment 3-2

3.2 Conventions used in this manual 3-3

3.3 Preventative maintenance guidance & schedule 3-4

3.4 Information for engineers 3-5

3.5 Removal of covers 3-6

3.5.1 Drive side cover 3-6

3.5.2 Operator side cover 3-6

3.5.3 Internal black covers 3-7

3.5.4 Front vertical cover 3-7

3.6 Removal of envelope feeder 3-8

3.7 Removal/adjustment of envelope separator 3-9

3.8 Replacement of envelope conveyor belts 3-10

3.9 Removal of collate pocket clam assembly 3-11

3.10 Replacement of collate chains/pawls 3-12

3.11 Removal of finger assembly 3-13

3.12 Adjustment of fingers 3-14

3.13 Removal of side guide adjust assembly 3-16

3.14 Adjustment of side guides 3-17

3.15 Removal of power supply 3-17

3.16 Removal of sealer rollers 3-18

3.17 Removal of sealer assembly 3-19

3.18 Adjustment of wetter lever 3-19

3.19 Engineering mode 3-20

3.19.1 Hardware setup 3-20

3.19.2 Units setup 3-21

3.19.3 Firmware download 3-27

3.19.4 Diagnostics 3-28

3.20 Recommended Spares Parts List 3-31

4 Exploded Views 4.1

4.1 Chassis Drive Side (Front) 4-2

4.2 Chassis Drive Side (Rear) 4-5

4.3 Chassis Operator Side 4-8

4.4 Chassis Assembly 4-11

4.5 Shaft Locations 4-14

4.6 Envelope Feeder Assy A2-1064-A 4-16

4.7 Envelope Separator Assy A2-1065-A 4-19

4.8 Envelope Tractor Assy A2-1067-A 4-21

4.9 Envelope Feed Shaft Assy A2-1068-A 4-23

4.10 Envelope Conveyor Assy A2-1066-A 4-25

4.11 Envelope Conveyor Backstop Assy A2-1200-A 4-28

4.12 Collate Pocket Clam Assy A2-1069-A 4-30

4.13 Head Input Conveyor Upper Assy A2-1054-A 4-33

4.14 Head Input Conveyor Lower Assy A2-1055-A 4-36
4.15 Motor Assy A2-1056-A (115V) / A2-1057-A (230V) 4-38
4.16 Sealer Assembly A2-1058-A 4-41
4.17 Split Shaft Sub Assys A2-1059 / 1060 / 1061-A 4-44
4.18 Finger Assembly A2-1062-A 4-46
4.19 Finger Bkt Op Assy A2-1073-A 4-49
4.20 Side Guide Adjust Assy A2-1063-A 4-51
4.21 Pawl Tension Bracket Assy A2-1072-A 4-53
4.22 Wetter Lever Assy A2-1352-A 4-55
4.23 Wetter Beam Assembly 4-57
4.24 Wetter Tank Assy A2-1070-A 4-59
4.25 No Seal Assembly A2-1214-A 4-61
4.26 Head Ribbon Bkt. Assy 184-2260 4-63
4.27 Universal Head PSU 184-2150 4-65
4.28 Mains Input Hardwired 184-2250 4-66
4.29 Head Covers 4-67
4.30 External Float Switch A3-0421-A 4-70
4.31 Lift Beam Assy A2-1520-A 4-72

5 Electrical & Circuits 5.1

5.1 Sensors 5-2
5.1.1 Sensors List 5-2
5.1.2 Sensors Diagram, Operator Side 5-4
5.1.3 Sensors Diagram, Drive Side 5-5
5.2 Electrical Components 5-6
5.2.1 Physical Locations of Components 5-8
5.3 Control PCB Circuit Diagram 5-14
5.4 Processor PCB Circuit Diagram 5-17
5.5 Comms PCB Circuit Diagram 5-18
5.6 Wetter PCB Circuit Diagram 5-19
5.7 Expansion PCB Circuit Diagram 5-20
5.8 Interlock PCB Circuit Diagram 5-21
5.9 Stepper Motor PCB Circuit Diagram 5-22
5.10 R/Splitter & Disk PCBs Circuit Diagrams 5-23
5.11 Inserter Head Wiring Diagram 5-24
5.12 Inserter Head Splitter PCB's Wiring Diagram 5-25
5.13 Ins. Head PSU & Interlock Wiring Diagram 5-26

Section 1

Installation Instructions

Sect.		Page
1.1	Safety Notes	1-2
1.2	Detachable Items	1-4
1.3	Assemblty of HD Head onto Stand	1-5
1.4	Setting up the Machine	1-7

1.1 SAFETY NOTES

Warning! Do not work inside the machine unless you are a trained mechanic or electrician. Stop the machine, and disconnect the power cord before you open the machine. Only a trained electrician should work with the electrical parts! A voltage of 120 Volts may be present inside this machine. The power source can produce enough voltage and current to be very dangerous!

Warning! This machine is equipped with a three-pronged plug. One of the prongs on the plug provides a safety grounding feature. Be sure the plug is always connected to a properly wired three-prong outlet. Do not use a two-prong adapter without grounding the machine properly. Never remove the third prong from the plug. The safety grounding feature provides extra protection in the event of an electrical problem. The apparatus must be earthed.
As the colors of the wires may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:
The wire which is colored GREEN must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol or colored GREEN.
The wire which is colored WHITE must be connected to the terminal which is marked with the letter N.
The wire which is colored BLACK must be connected to the terminal which is marked with the letter L.

Warning! The mains input supply is fused on both live and neutral sides. Service personnel should be aware that a mains voltage can exist even if no lighted neon shows.

Warning! Most of the moving parts are protected by covers. Don't operate the machine unless all of the covers are in place. Opening covers include safety interlock switches. If a cover is opened, the switch will stop the machine from running. Don't try to bypass the interlocks, and don't use the machine if the interlocks are not working.

Warning! Don't wear any loose clothing when you are working near the machine. If a bit of clothing becomes caught in one of the moving parts, you may be pulled into the machine very quickly. This force can be surprisingly powerful - you may not be able to resist it. Take care with neckties, sashes, long sleeves, or any other loose clothing. Dangling jewelry can also present a hazard. Remove any of these items of loosely-fitting clothing, or tie the loose sections out of the way so they can't be caught by the machine. Long hair can also be dangerous when working near this type of machine. If you have long hair, tie it back or tuck it under a hat. Be especially careful around the folding rolls near the center of the machine.

Caution! Keep the machine clean. Wipe off the outside of the cabinet from time to time to keep the paper dust from collecting. If you notice that paper dust is collecting inside the machine, open the covers and vacuum it out, or blow it out with an airduster.

Caution! Keep the work area around the machine clean. Don't allow paper trim and waste to pile up. If the work area includes a lot of loose paper scraps, an operator may slip and fall.

BEFORE DISASSEMBLING:
THE MAIN POWER CABLE MUST REMAIN UNPLUGGED UNTIL END OF ASSEMBLY

DO NOT TOUCH INSIDE POWER SUPPLY UNIT TO PREVENT ELECTRICAL DISCHARGE DUE TO CHARGED CAPACITOR.

ALTHOUGH MANUFACTURER TAKES CARE TO REDUCE RIDGE DANGER, PLEASE HANDLE STEEL SHEETS CAREFULLY TO AVOID ALL RISKS OF CUTTING.

IMPORTANT!!

IN THE EVENT OF ANY EMERGENCY, OR TO STOP THE MACHINE FOR ANY OTHER REASON, STRIKE THE RED EMERGENCY STOP KNOB NEXT TO THE CONTROL PANEL

Important!

ELECTRICAL INSTALLATION NOTES

THESE NOTES MUST BE READ PRIOR TO INSTALLING THIS MACHINE

This equipment is supplied with an unterminated, three-core lead for connection to the mains supply. The connection must only be made by a qualified electrician, or by a qualified Service Engineer.

1) This equipment must be earthed.
2) For continued protection against the risk of fire, fuses must only be replaced by those of the same type and rating.
3) **Caution:** This equipment is internally fused in both Live and Neutral leads.
4) Maximum input current is **10A for 115V** and **6.3A for 230V.** Maximum leakage current shall not exceed 5% of the input current.
5) **Euro only:** An appropriate disconnect device shall be provided as part of the building installation and be readily accessible.
6) **Euro and US/Can:** Where the plug is fitted, the socket outlet shall be installed near the equipment and shall be easily accessible.

230 Volt Machines

Wire Colours:
Live: Brown
Neutral: Blue
Earth: Green/Yellow

115 Volt Machines

Wire Colours:
Live: Brown
Neutral: Blue
Earth: Green/Yellow

Caution

High leakage current. An earth connection is essential before connecting to the supply.

Installation Instructions

Note: This secton covers installation of a complete Maximailer HD, and assumes a DTI is to be fitted with optional feeders.

1.2 DETACHABLE ITEMS

The machine is supplied on site with each module packaged separately and with stands supplied in flat-pack form. Check that the following detachable items are all present:

Insertion Head

Comms Lead, Long	160-511	Qty. 1
Plug IEC60309 Yel 16A	168-347 (US)	Qty. 1
or		
Plug IEC60309 Blu 16A	168-346 (EURO)	Qty. 1
PC Fittings Kit	A7226A	Qty. 1
Set of Castors	E0563A	Qty. 2
Catch Tray (non-conveyor)	R2211T	Qty. 1
Screw, M5 x 10	E2516A	Qty. 4
Operator Manual	K1-0271-A	Qty. 1
Stands (see 1.2 opposite)		
Declaration of Conformity (230v only)		

Feeder (single and dual)

Comms Lead, Short	160-510	Qty. 1
Screw, M5 x 10 Cap	E2516A	Qty. 1
Infill Cover	R2263S	Qty. 1

Output Conveyor (optional)

Mains Lead	162-210 (UK)	Qty. 1
or Mains Lead	162-321 (US)	Qty. 1
or Mains Lead	162-311 (EURO)	Qty. 1
DIN Lead	182-707	Qty. 1
Operator Manual	K1-0283-A	Qty. 1

Important: *Check that all covers are in place and undamaged. Check that all warning labels are in place and legible (see section x for locations). Check that the mains lead and its connectors are sound and undamaged.*

1.2.1 Stand Assembly

Stands are supplied dependent upon machine configuration. Usage is as shown in Fig. 1 below.

Insert Head	Feed Unit 1	Feed Unit 2	Feed Unit 3	Feed Unit 4	Feed Unit 5	Feed Unit 6	Feed Unit 7
A3-0417-A + A3241A							
A3-0417-A + A3240A							
A3-0417-A + A3241A + A3240A							
A3-0417-A + A3240A x 2							
A3-0417-A + A3241A + (A3240A x 2)							
A3-0417-A + A3240A x 3							
A3-0417-A + A3241A + (A3240A x 3)							

Fig. 1

Unpack and assemble the stands using the supplied assembly instructions. If the machine uses more than one stand, join these together using the supplied fasteners in the 4 corners of the mating faces.

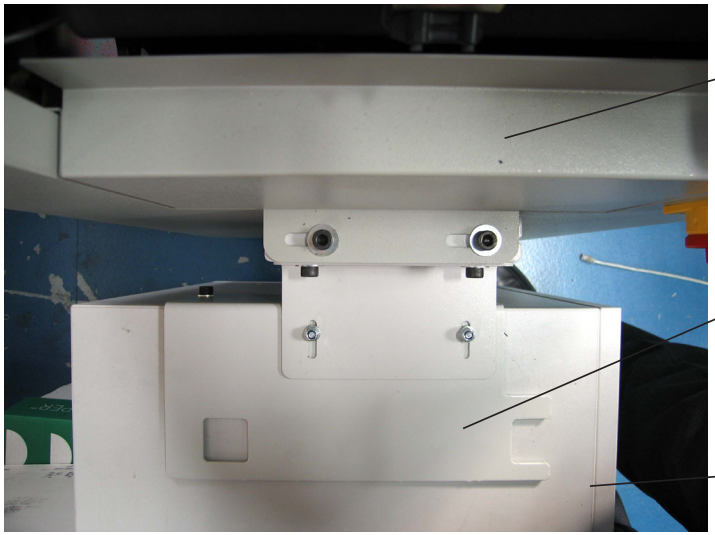
1.3 ASSEMBLY OF MAXIMAILER HD HEAD ONTO STAND

1.3.1 Assemble the HD head stand to the single stand supplied; this will replace the previous Maximailer Plus stand that supported a single module as well as the insert head.

1.3.2 Lift the Maximailer HD head onto the stand, ensuring that the wetter tube passes through the hole in the top of the front section of the stand.

Caution: The machine is extremely heavy and will require a number of people to lift it. Do not attempt to lift if you do not feel confident to do so.

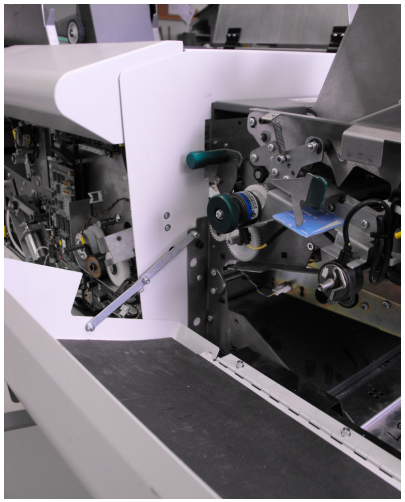
1.3.3 Place the sealing fluid bottle and PC into the stand as shown. Do not connect the PC at this stage.



Note: Viewed from above

1.3.4. Screw all stands together and fit the supplied attachment bracket R2904T to the end stand. **Note: Use holes marked 'L'.** This is required for the alignment of the wider Maximailer HD and Datacard system.

1.3.5 Lift all feed modules (if applicable) and the DTI onto the stands. Assemble them together using the supplied screws.



Operator side of Maximailer HD connected to module 1

Drive side of Maximailer HD connected to module 1

1.3.6 Attach the Datacard machine to the attachment bracket R2940T, as shown opposite.

cont.

1.4 SETTING UP THE MACHINE

1.4.1 Connect the power and comms cables for all modules as follows:

- Datacard machine to DTI serial lead
- Datacard machine to PC comms lead
- Cancard from PC to Maximailer HD
- Power leads between modules and then to Maximailer HD head
- Power lead from Maximailer HD head to mains supply
- Power lead to PC
- Power lead to Datacard machine

1.4.2 Check the DIP switches on the head and module PCBs are set as follows:

Module	DIP Switch ON Position			
	1	2	3	4
1	X			
2		X		
3	X	X		
4			X	
5	X		X	
6		X	X	
7	X	X	X	
8				X

1.4.3 Connect remaining PC leads to monitor and keyboard.

1.4.4 Switch the PC and the Maximailer HD ON.

1.4.5 Check the software/firmware version.

1.4.6 Check network connections between Maximailer HD PC and the Datacard machine.

1.4.7 Program the Maximailer HD with jobs and test run.

1.4.8 When all is satisfactory, replace all covers.

Section 2

Description of Operation

Sect.		Page
2.1	General Description	2-2
2.2	Track Collation Description	2-2
2.3	Description of Insertion Head	2-3
2.4	Description of Insert Feeder	2-5
2.5	Description of Tower Folder	2-6
2.6	Description of Feeder Folder	2-7

SECTION 2 DESCRIPTION OF OPERATION

2.1 General Description

The machine is a high-volume folder/inserter capable of up to 200,000 cycles per month at a speed of up to 4500 filled envelopes per hour (DL with 1 insert). It is of modular construction and consists of an insert head and any or all of a: insert feeder; b: tower feeder; c: mark reading feeder; d: feeder folder; d: tower folder (with built-in tower). This may be fitted with either 1 or 3 trays and an optional accumulator for collating/diverting, with or without a diverter tray. It is always fitted in the end station position.

The insert head also includes a collator, as well as the envelope hopper, wetter and closer.

Collation can be carried out a number of ways, depending upon the particular job. The software works out the optimum feed pattern, as well as the best feed units to use if more than one possibility exists. Collation possibilities are:

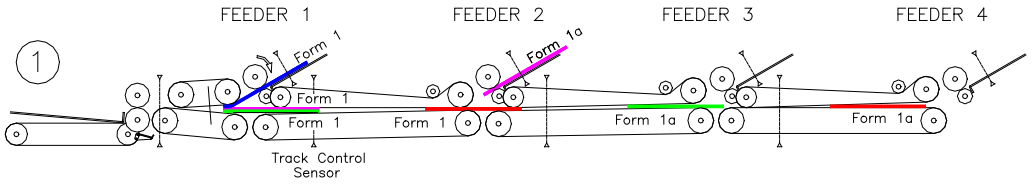
1. Using the accumulator in a 3-tray, tower folder - 3 forms are fed into the accumulator, folded and ejected on towards the insert head.
2. Collation on the track - a folded sheet or insert is timed to trailing-edge collate with the document fed from the following feed unit as the first document passes underneath.
3. At the insert head - all documents will arrive in the collation pocket, either individually or as a pack already collated by the above methods. The topmost item is the prime (address) document. The pack is then inserted in the envelope.

2.2 Track collation description

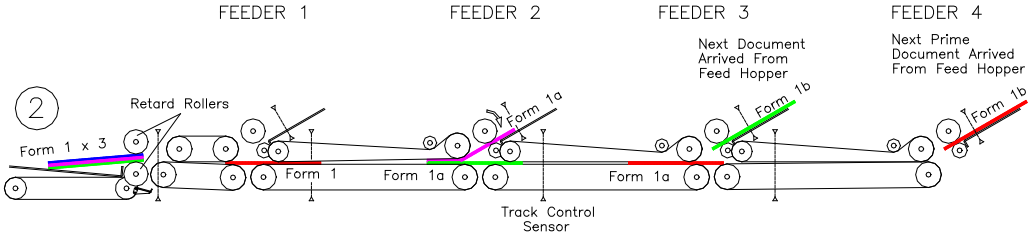
Jobs with more than one feed unit will in most cases collate together as described in paragraph 2 above, and will arrive in the collation pocket as a pack, with the exception of the prime document, which will be fed on top of the pack as a separate item. The exception to this is if the prime station is No. 1, in which case the document would be finally collated on top of the pack from preceding feed units, then finally delivered to the collate pocket.

Documents are trailing-edge located due to the pack being inserted by pushing it into the envelope with chain-driven pawls. Timing is controlled by the track conrol sensor located behind each hopper.

The sequencing between the stages of machine operation is shown in the diagrams below, which begin part way through a complete cycle – the preceding sequence of operations from the start of the cycle will have been similar, but with fewer documents having been gathered.



Stage 1: Form 1 is fed from feeder 1 down onto the conveyor track. This form is trail edge collated with the upstream documents arriving from feeders 2 and 3. The feed timings for the collate operation are triggered when the trailing edge of the documents from feeders 2 and 3 pass through the track control sensor.



Stage 2: The three collated documents (for pack 1) from feeders 1, 2 and 3 are driven into the collation pocket by the retard rollers. This roller set ensures that the final presentation of the collated pack is suitable for envelope insertion by slowing down whilst feeding.

Form 1a is fed from insert feeder 2 down onto the conveyor track. This form is trail edge collated with the upstream document arriving from feeder 3. The feed timings for the collate operation are triggered when the trailing edge of the document from feeder 3 passes through the track control sensor.

Form 1b is held stationary at the exit hold point of insert feeders 3 and 4.

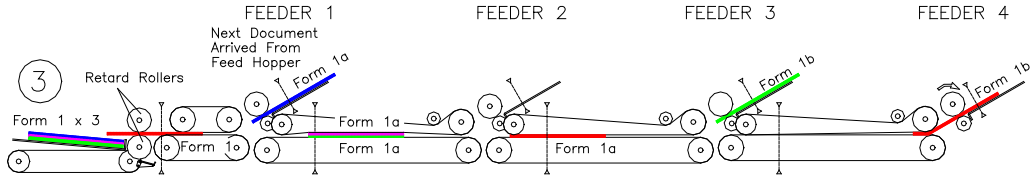


Fig. 3

Stage 3: Form 1 (prime/address carrying document for this pack) is driven into the collation pocket by the retard rollers.

Form 1b (prime/address carrying document for a following pack) is fed from feeder 4 down onto the conveyor track. The feed operation between all stages is governed by software timings to set a controlled gap (pitch length) between the prime documents on the track.

Form 1a held is stationary at the exit hold point sensor of insert feeder 1.

After the prime document has been fed into the collation pocket on top of the 3 documents already collated, the pack is inserted into the envelope, described in more detail below.

2.3 Description of Insert Head (see Fig. 4 opposite)

The insert head includes the envelope hopper, collation pocket, insert fingers, wetter and closer. The insert pack arrives into the input conveyor, as monitored by the input conveyor sensor. When its trailing edge passes this sensor, the drive rollers ahead reduce speed as necessary to allow the collate pocket to clear. The pack is then driven into the collate pocket where it contacts a solenoid-actuated backstop to prevent overrun (there are 3 backstops, the one used being determined by the pack length). Its arrival is monitored by the collate pocket load sensor; the collate pocket sensor confirms it is in place in the pocket.

Whilst the pack is feeding, an envelope will have been fed to the envelope feed sensor which acts a hold point if necessary, and then into the stationary deskew rollers which straightens any skew; the deskew rollers are controlled by the deskew sensor.

The envelope tractor facilitates feeding of envelopes and operates on a pivot. When pushed forward by the envelope stack, the envelope conveyor sensor switches off the feed conveyor; as envelopes are fed and the tractor relaxes, the sensor is cleared and the conveyor starts again. The amount of delay before feeding restarts can be controlled in software.

The envelope is then driven past the tilting flap opener and into place ready

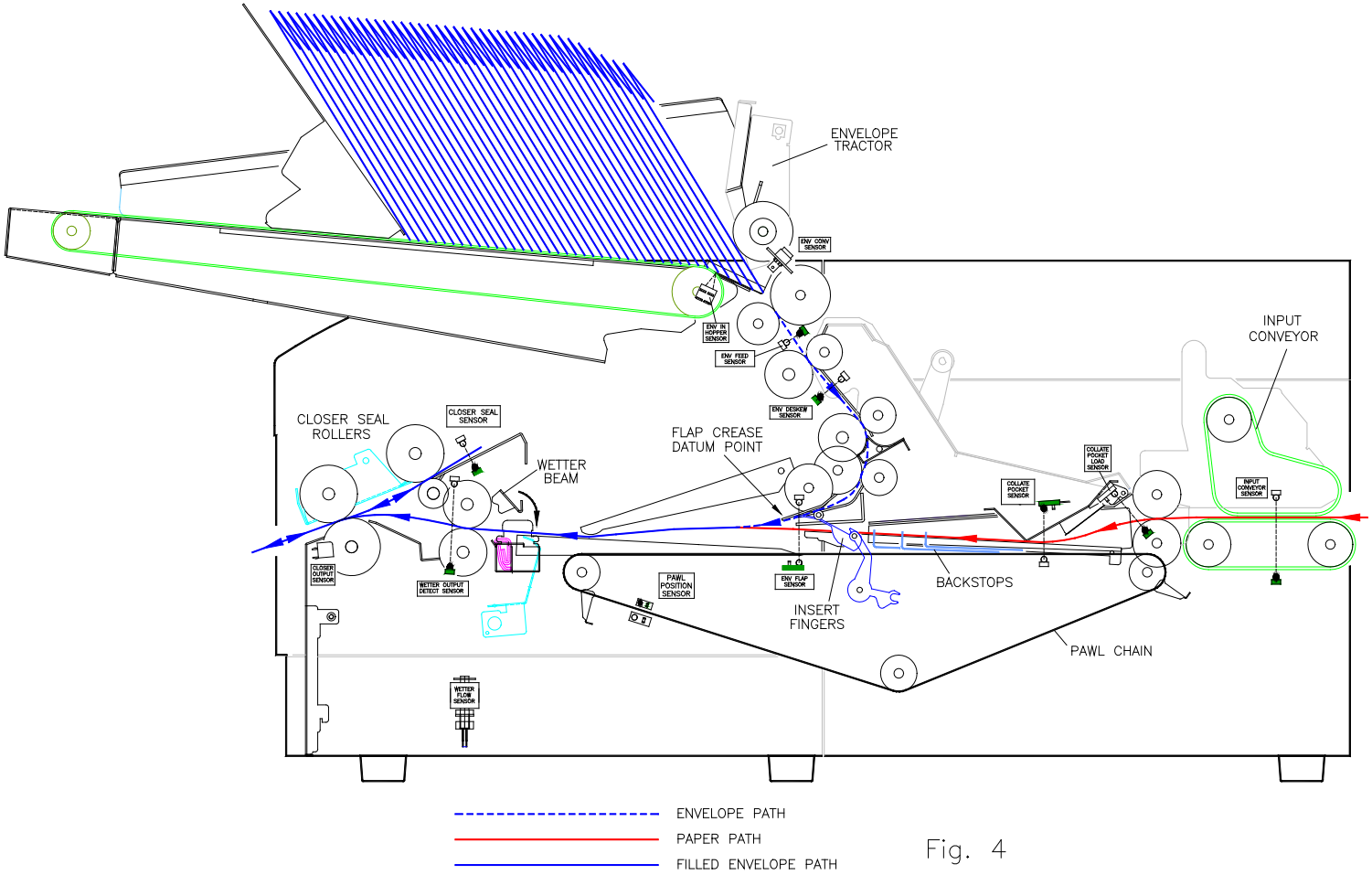


Fig. 4

for insertion. Here it is held with the flap crease at the datum point shown in Fig. 4, timed from the trailing edge passing the deskew sensor and arriving at the envelope flap sensor. The solenoid-actuated insert fingers hold the envelope throat open. With the envelope then in place ready for the arriving pack, the backstop drops and the pack is driven into the envelope.

Note that it is possible in the software to adjust whether the outer pair of fingers move forward first, or the inner pair. This can assist certain envelopes, depending on design.

As the chain pawls are pushing the pack in, the pawls below the track are detected by the pawl position sensor which times precisely how long it take to push in the pack. At that point, the envelope is released.

Just prior to release, the chain track pauses momentarily so that the tips of the pawls do not catch on the edge of the departing envelope. While insertion is taking place, the next envelope is fed into place and held at the deskew rollers ready for the next insertion.

Timed from the leading edge of the envelope passing the wetter output detect sensor, the wetter beam is pulled down by solenoid action so that the flap is wetted by the wetter felt below. As the trailing edge passes this sensor, the beam will retract.

The envelope is driven forward into the seal rollers. Due to the angle of the roller axis, the flap edge of the envelope is lifted up, forcing the flap downwards against the roller, at which point the rollers reverse to drive the envelope into the upper seal rollers, sealing the envelope flap - the reverse point is timed from the closer output sensor. The envelope leading edge reaches the closer seal sensor and the envelope reverses again to drive it out of the eject, monitored by the closer output sensor. This completes the cycle. See fig. 5 above.

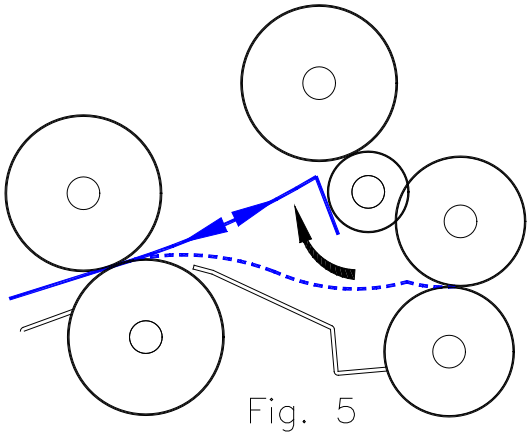


Fig. 5

The insert finger widths and collate pocket side guides are automatically adjusted to suit the appropriate paper widths, as determined by the sizes set in the operating software. For the fingers, the finger datum (flag) sensor determines when the fingers are at their narrowest position. The finger disc sensor then clocks their movement to set them to the correct position. The finger out (flag) sensor is blocked when the fingers are in the relaxed position (out of the envelope).

For the collate pocket, the guide datum (flag) sensor determines when the guides are at their widest position. The guide disc sensor then clocks their movement to set them to the correct position.

2.4 Description of Insert Feeder (see Fig. 6 opposite)

Insert feeders on the machine are fitted with a top feed hopper capable of holding up to 300 reply paid envelopes or 150 2mm thick booklets. The separator has 4 manual settings, each one automatically adjusting for a range of thicknesses. 2 slotted sensors use a simple binary code to monitor the separator setting to the software which will then flag an error if the measured thickness of the insert is outside the range of the setting.

Operation

Inserts feed through the separator and up to the stationary deskew rollers ahead. This straightens any skew, and as the leading edge is detected by the deskew sensor, the drive clutch actuates to drive the insert forward to the hold point sensor where it is stopped by the drive brake just ahead of this point. The double document sensor is also located next to the hold point, and if required, a calibration cycle will be performed to guage the document length and thickness, otherwise the DD sensor will detect if a double has been fed.

When the path ahead is clear, drive will again engage to move the insert forward to the track feed sensor where it is halted. The paper width sensor (located to one side) is used by Select & Go to detect if the insert width is too wide for the envelope - if it is, an error will be flagged. If the insert is to be collated with one from the following feed unit (as described in section 2.2), it will wait at the track feed sensor until the following insert has reached it (timed from the track sensor). They will then be fed together with trailing edges collated into the conveyor of the next feed unit, or the insert head conveyor.

All feed unit conveyors can operate independently, but normally move in unison and will only stop if for any reason an expected insert for collation has failed to arrive at the exit hold point sensor - this would only be result of a fault condition such as a paper jam or hopper empty.

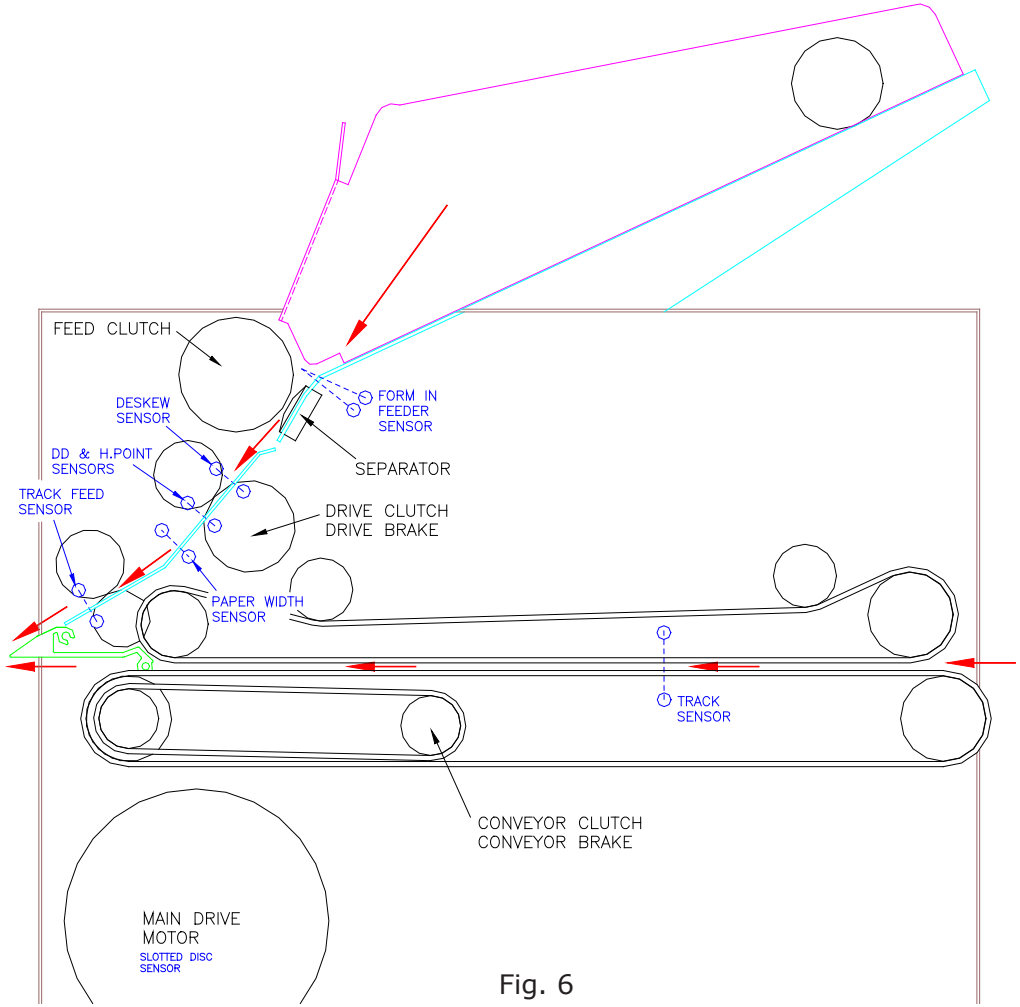


Fig. 6

2.5 Description of Tower Folder (see Fig. 7 below)

The 3-plate tower folder may be fitted with either 1 or 3 feeder trays. If OMR or Barcode reading is being used, the reader is fitted to either or both of feeders 1 or 2, top or bottom read (barcode reader on feeder 1, bottom read only). An accumulator may optionally be fitted to allow up to 8 sheets of 80 gsm paper to be folded together, or it may be used as a diverter for hand-removal. As a further option, a divert tray may be fitted for forms to be diverted into.

A hand-feed daily post tray is fitted to allow up to 8 sheets of 80gsm paper, stapled or not, to be folded and inserted

The folder unit allows for a wide range of fold options on forms up to 16" (406mm) length and it can be opened up for jam clearance.

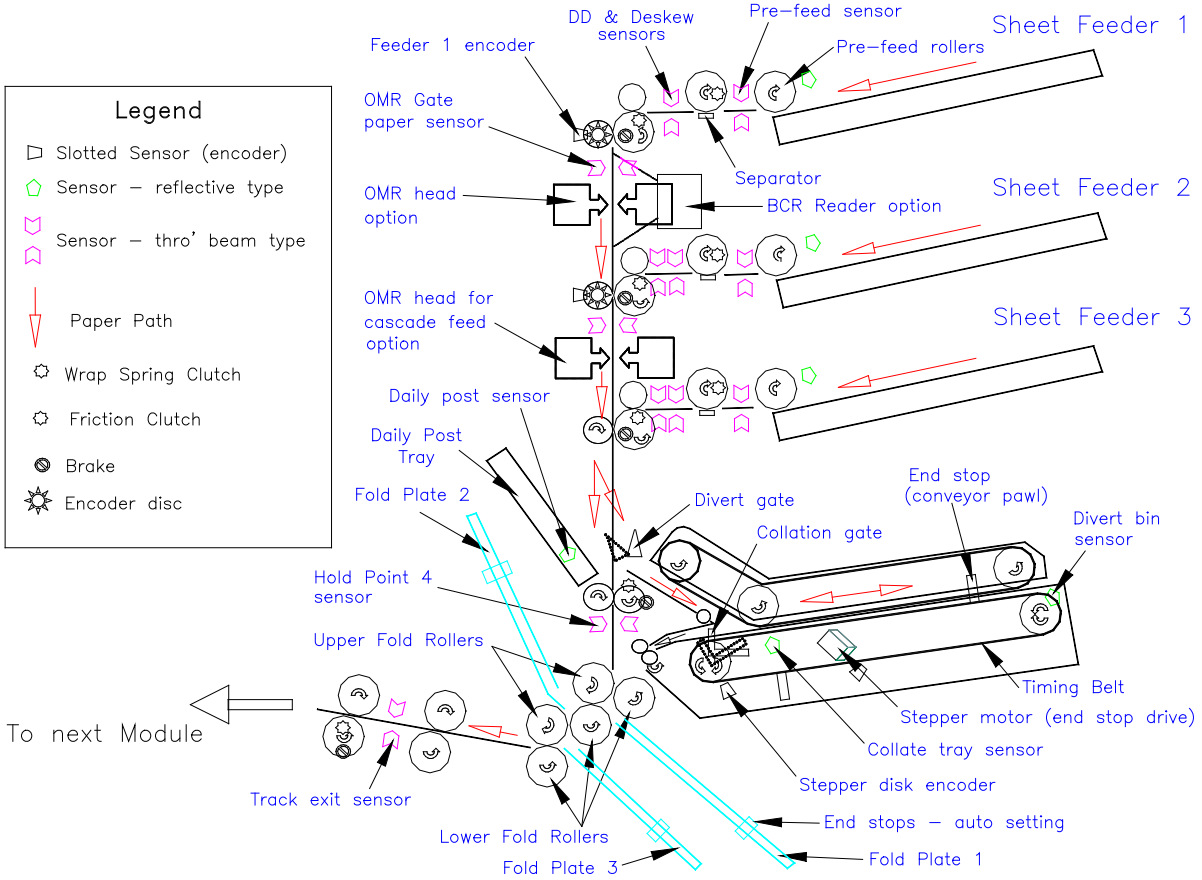


Fig. 7

Operation

A form feeds through the pre-feed rollers, monitored by the pre-feed sensor and up to the deskew and double document sensors, mounted side-by-side. The leading edge is driven into the stationary rollers ahead to correct any skew. The deskew sensor also acts as a hold point. When the path ahead is clear, the drive is engaged to the rollers to feed the form fowards. As soon as the trailing edge is clear of the pre-feed sensor, the next form starts to move towards hold point (deskew), thus allowing minimum time delay between forms.

If an OMR or barcode head is fitted, the OMR Gate paper sensor detects the leading edge of the forms and times the start of the marks from the distance input by the user – the timing operation is carried out by the encoder (disk) sensor.

The form travels towards the accumulator, and if further forms in hoppers 2 & 3 are part of the OMR group, they will also be fed into the accumulator, following hopper 1 form. Their entry into the accumulator is monitored by the collate tray sensor, and are prevented from sliding forward by the collation gate.

Up to 8 forms can be folded together in this way, and when all are in the accumulator, the collation gate drops by solenoid action and the conveyor belts drive the forms into the folder. If there are more than 8 forms (up to 12) in the group, these can be diverted to the diverter tray (if fitted), or held in the accumulator for removal.

If 3 or fewer non-OMR forms are to be folded together, they are not by default directed by the solenoid into the accumulator, but pass directly to the folder. They will be leading-edge collated, ie. as form 1 passes hopper 2, that form will be fed so the leading edges align, and then on to hopper 3 where the same occurs.

Non-OMR groups can also be directed in software to use the accumulator and be folded together, or they can be collated on the track one at a time, or if 3 or fewer, folded together as described above.

The forms are fed into fold plate 1 or 2 (depending upon fold type) where the leading edge contacts the motor driven end stop, forming a buckle. This buckle is driven through the next set of fold rollers and into the next fold plate where a similar action is performed. They are then finally driven out onto the track, their exit being monitored by the track exit sensor.

Fold plate settings are automatic in operation, set by the data input in the job setup, or more usually by the automeasure facility using standard form sizes. Fold plate that are not used are blanked off by a no-fold beam actuated by a lug attached to the motor-driven end stop.

The accumulator can also be used for diverting forms for subsequent hand removal (the cover over the conveyor can be raised), or if the optional diverter tray is fitted at the top end of the accumulator, the forms will be fed directly into it - passing the divert bin sensor confirms their presence. Note that diverted forms will always pass into the divert tray if it is fitted.

The accumulator is an optional item, and if it not fitted there is no divert facility, and a maximum of 3 forms can be folded together. If more than 3 forms are to be fed, these will be folded singly and fed onto the track one after the other, then collated together in the collate pocket in the insert head.

Daily post

This function will be enabled if 'Handfeed' is selected in the job setup. When the Run button is then pressed, the machine will await a group of up to 8 forms, stapled or not, to be inserted into the daily post hopper. When these pass the daily post sensor, they will be automatically fed, and the machine will await the next group. Forms from other feeders in the tower folder can be collated with the daily post (up to the maximum of 8 of 80gsm), and forms from other feed units can also be included in the job.

2.6 Description of Feeder Folder (see Fig. 8 below)

The 2 plate feeder folder is fitted with a top feed hopper capable of holding up to 500 sheets of 80gsm paper. The hopper and separator are identical to the upper hopper of the tower folder.

The unit is available as either an end unit, or in-line (mounted on the track), the difference being a blanking cover fitted to the rear of the end unit and no conveyor is fitted. An optional handfeed slot may be specified, located in front of the paper hopper – this can fold up to 3 sheets of 80gsm (C or Z) or 5 sheets (V). Stapled sheets must be Z fold only.

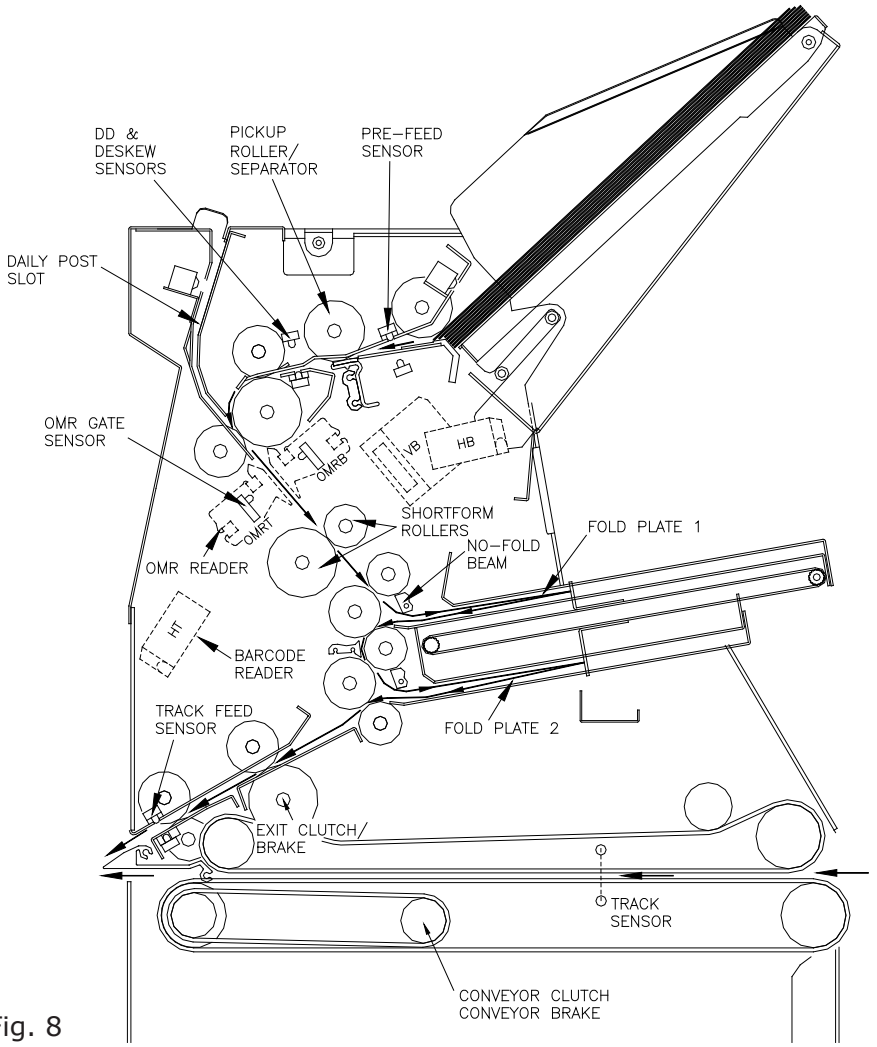


Fig. 8

The machine may be fitted with either OMR or barcode, top or bottom reading, vertical or horizontal barcode for top reading, but horizontal only for bottom reading. An optional shortform upgrade can be fitted so the folder can double as a feeder, but this cannot be Barcode or OMR enabled.

Operation

A form feeds through the pre-feed rollers, monitored by the pre-feed sensor and up to the deskew and double document sensors, mounted side-by-side. The leading edge is driven into the stationary rollers ahead to correct any skew. The deskew sensor also acts as a hold point. When the path ahead is clear, the drive is engaged to the rollers to feed the form forwards. As soon as the trailing edge is clear of the pre-feed sensor, the next form starts to move towards hold point (deskew), thus allowing minimum time delay between forms.

If an OMR head is fitted, the OMR Gate paper sensor detects the leading edge of the forms and times the start of the marks from the distance input by the user: the timing operation is carried out by the encoder (tacho) fitted to the end of the feed roller shaft just ahead of the DD/Deskew sensors. If a barcode reader is fitted, no sensor or tacho is required or fitted, and a different, shorter feed shaft is used. After reading any marks/barcode, the form is fed into fold plate 1 whose backstop is motor-driven to be set short (ie. approx. 1/3 form length) for C fold, or long (approx. 2/3 form length) for Z fold. When the leading edge contacts the backstop, the form buckles and drives the buckle into the nip of the first fold rollers. It is driven into the second fold plate (set short for both C and Z fold) where it buckles again and is fed, fully folded, towards the exit path where it is held by a brake at the track feed sensor. For V fold, the form is driven into fold plate 1, set to half form length, and the buckle is driven into the first set of fold rollers. The no-fold beam for fold plate 2 is solenoid-actuated to bypass the fold plate, so the folded form is driven towards the exit path as for C or Z fold.

For in-line units a conveyor is fitted, where forms approaching from the unit behind are fed through, monitored by the track sensor. This is timed in conjunction with the track exit sensor so the folded form is trailing-edge collated with the preceding document, as described in section 2.2.

For end units, no conveyor is fitted and the unit normally feeds the prime document. This travels through the machine to be fed on top of the collated pack in the collate pocket in the insert head.

Shortform option

This option allows the folder to be used as a feeder by the addition of the two roller shafts shown in Fig. 8. As these are placed where the OMR or barcode head is fitted, shortform option is not available with either. In use, both fold plates are blanked off by the no-fold beams. For forms clearance in the event of a crash, the rear roller shaft can be pivoted backwards after removing the hopper. Shortform option can be specified with the unit or retrofitted (A3302A).

Handfeed option

This is fitted in front of the unit, as shown in Fig. 8. It allows folding of up to 3 sheets of 80gsm (C or Z) or 5 sheets (V). Stapled sheets must be Z fold only. In operation, handfeed (daily post) is selected in the job. When the machine is started, the operator is prompted to feed the paper, detected by a reflective sensor. The machine will wait for up to 1½ minutes for paper to be inserted in the handfeed hopper, after which it will switch off. Handfeed option can be specified with the unit or retrofitted (A3301A).

Section 3

Maintenance and Service Adjustments

Sect.		Page
3.1	Health, safety & environment	3-2
3.2	Conventions used in this manual	3-3
3.3	Preventative maintenance guidance & schedule	3-4
3.4	Information for engineers	3-5
3.5	Removal of covers	3-6
3.5.1	Drive side cover	3-6
3.5.2	Front vertical cover	3-6
3.5.3	Drive side lower skirt	3-7
3.5.4	Upper cover	3-7
3.6	Removal of envelope feeder	3-8
3.7	Removal/adjustment of envelope separator	3-9
3.8	Replacement of envelope conveyor belts	3-10
3.9	Removal of collate pocket clam assembly	3-11
3.10	Replacement of collate chains/pawls	3-12
3.11	Removal of finger assembly	3-13
3.12	Adjustment of fingers	3-14
3.13	Removal of side guide adjust assembly	3-16
3.14	Adjustment of side guides	3-17
3.15	Removal of power supply	3-17
3.16	Removal of sealer rollers	3-18
3.17	Removal of sealer assembly	3-19
3.18	Engineering mode	3-20
3.18.1	Hardware setup	3-20
3.18.2	Units setup	3-21
3.18.3	Firmware download	3-27
3.18.4	Diagnostics	3-28
3.27	Recommended Spares Parts List	3-31

3.1 Health, safety and environment

3.1.2 Safety instructions

3.1.1.1 General

• This machine must be operated by competent personnel.

The manufacturer accepts no responsibility for accidents or injuries caused by operation by incompetent personnel.

• Covers may only be opened by skilled persons, who know the risks involved.

For safety reasons, the machine will not function with opened covers.

• Keep away long hair, fingers, jewelry, etc. from rotating and moving objects of the system.

• Switch off the system at the end of the day.

3.1.1.2 Electrical safety

• Disconnect the mains power supply before performing any maintenance to any kind of mains power supply/high voltage related items.

• The power connection must be easily accessible, preferably close to the machine.

• For safety reasons it is essential that the machine is connected to a socket outlet with protective earth connection.

• Over-current protection in the equipment also relies on the branch circuit protection.

• Disconnect the machine from the power supply when it is not in use for a longer time.

• Potential hazard may exist to electronic hardware in conditions with static electricity. It is advised that, when handling electronic parts, an earth connected wrist band is used in order to be permanently discharged from static electricity.

3.1.2 End of life

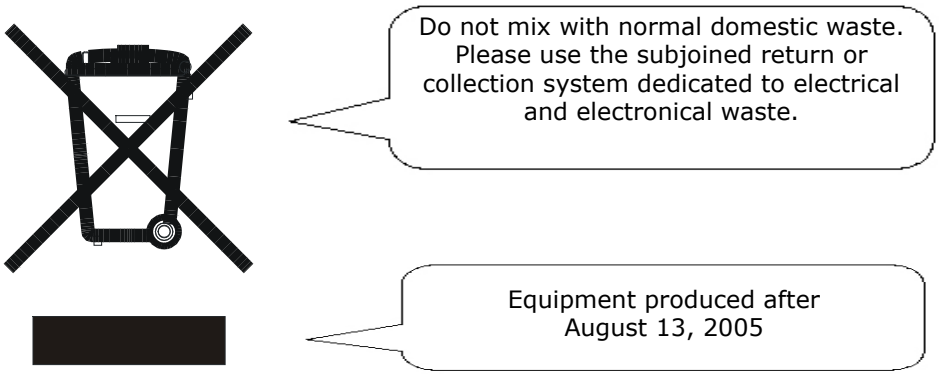
The objectives of the European Community's environment policy are, in particular, to preserve, protect and improve the quality of the environment, protect human health and utilise natural resources prudently and rationally. That policy is based on the precautionary principle and principles that preventive action should be taken, that environmental damage should as a priority be rectified at source.

Separate collection of waste is the precondition to ensure reuse and recycling of waste that is generated at the disposal of electrical or electronical equipment and is necessary to achieve the chosen level of protection of human health and the environment in the European Community.

More particularly, certain materials and components of waste electrical and electronical equipment needs selective treatment as their injudicious handling or disposing of on or into land, water or air would represent a major threat to the environment and human health.

cont.

In order to facilitate collection and treatment separated from normal domestic waste, electrical and electronical equipment is marked with the following logo:


Do not mix with normal domestic waste. Please use the subjoined return or collection system dedicated to electrical and electronical waste.
Equipment produced after August 13, 2005

Not only are you by law not allowed to dispose of the waste equipment via other waste-streams, but we encourage you to actively contribute to the success of such collection and to the common good and better quality of life of present and future generations.

For more information on the correct disposal of this product please contact your local dealer.

3.2 Conventions used in this manual

3.2.1 Symbols

Disconn being wi	Draws to your attention a particular difficulty associated with this operation, or indicates a potential hazard with it.
Remem complet	Indicates a piece of advice, tip or quick technique to assist in carrying out this operation.

3.2.2 Orientation

Throughout this manual, reference will be made to Operator and Drive side to indicate the side of the machine in question. These are defined as:

Operator Side: The side of the machine where the operator normally stands, viewing the screen. The side covers can be opened by the operator.

Drive Side: The opposite side to the Operator side. The side covers cannot be opened by the operator and are only able to be removed by the Engineer. Gear/ drive trains are located on this side.

3.3 Preventative Maintenance Guidance and Schedule

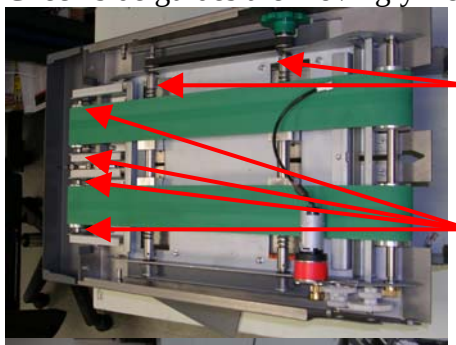
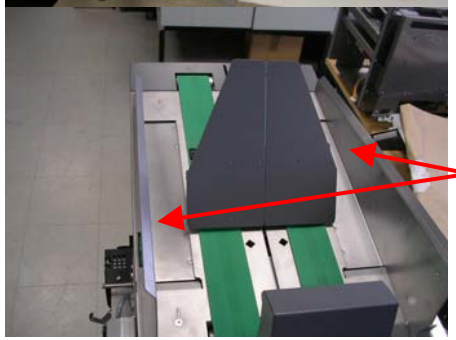
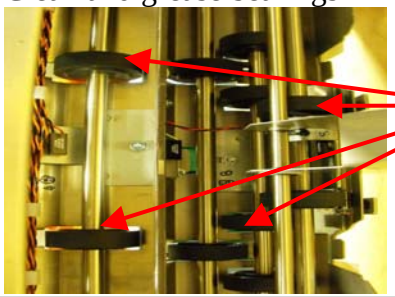
The Maintenance schedule on the following pages is applicable to the Maximailer HD product range and must be strictly followed to guarantee machine performance and reliability.

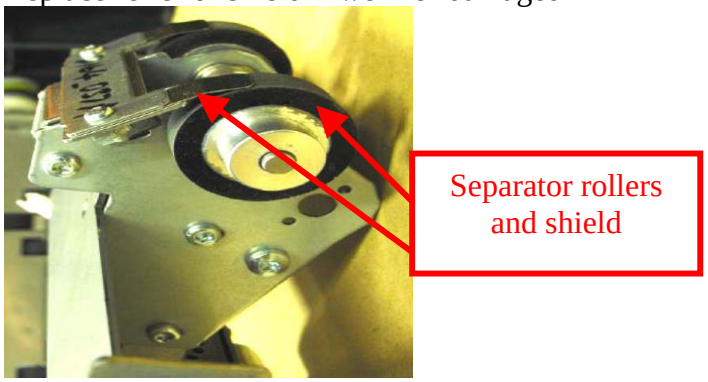
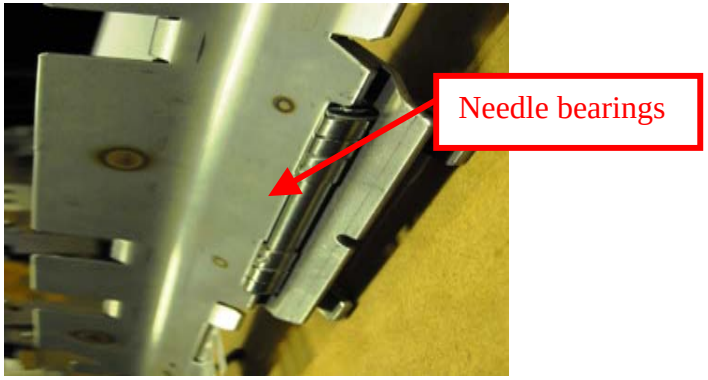
This schedule is based on a monthly cycle count of 350k / month which is considered the normal maximum. If the machine is running less than this, the PM visits should still be carried out with the same frequency, but fewer parts will be required.

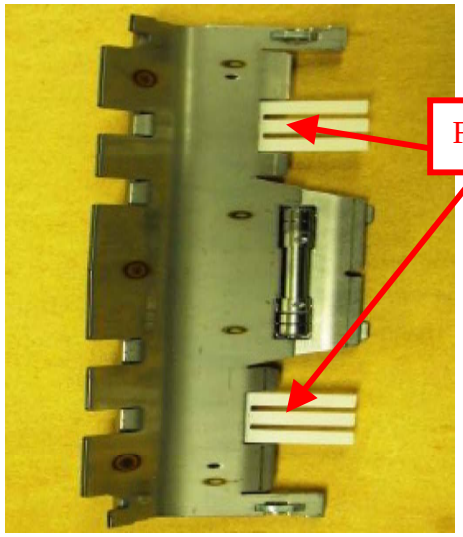
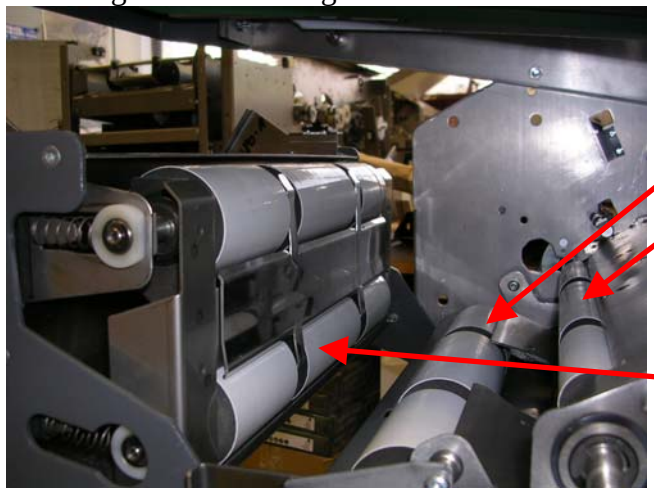
- **DS300 (Maxi HD)—Duty Cycle 350k / Month = 4.2 million / year = 4 PMV / year (pm every 3 months)**
- **DS200 (Maxi HD)—Duty Cycle 200k / Month = 2.4 million / year = 2 PMV / year (pm every 6 months)**
- **DS100/140 Feeders –Duty Cycle 200k / Month = 2.4 million / year = 2 PMV / year (pm every 6 months)**

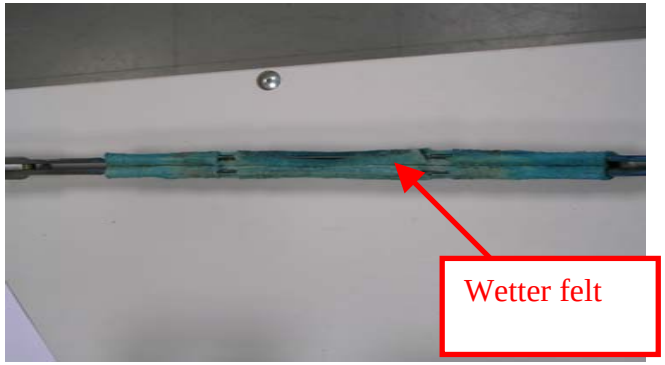
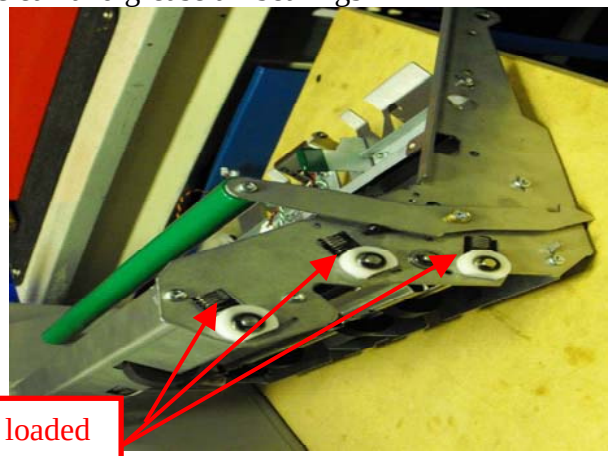
Note: If feeders are running at same duty cycle as the machine = 4 PMV / year (pm every 3 months).

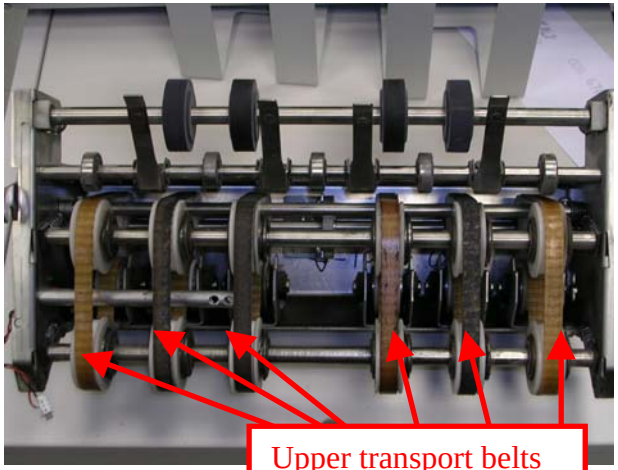
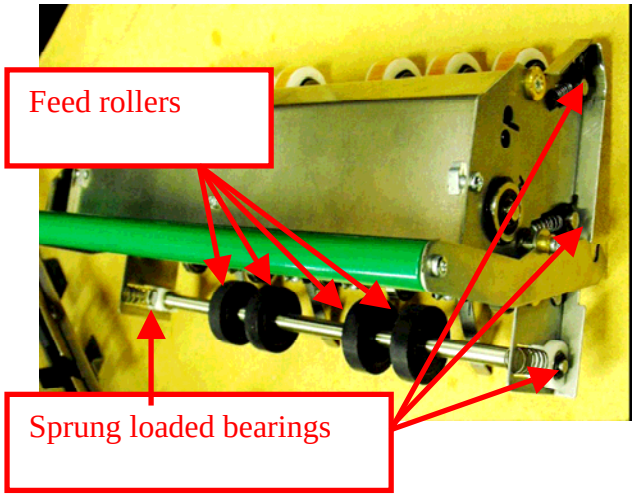
Click here to view the full PM Schedule.

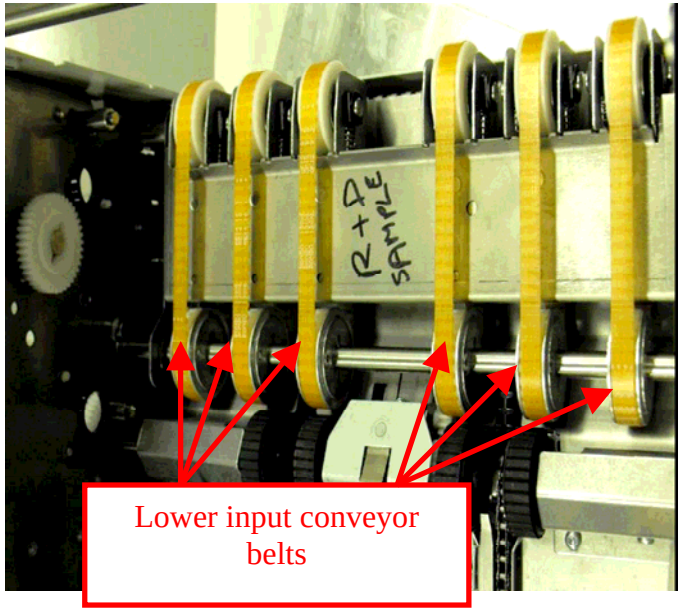
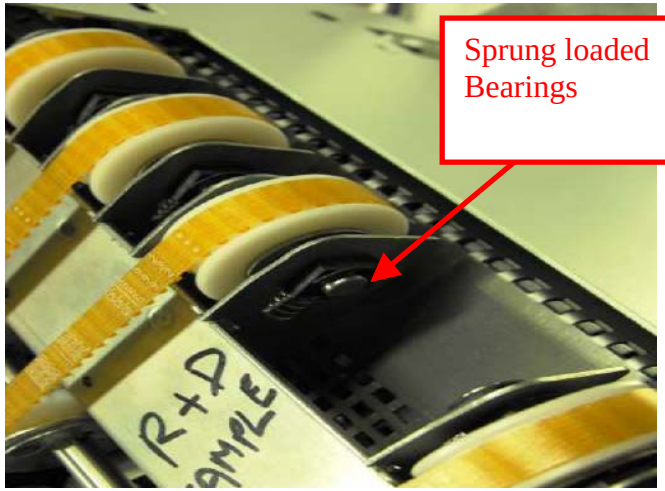
A1	Remove envelope conveyor and backstop Clean all spring loaded bearings and Regrease Clean shaft and regrease Check side guides are movingly freely  Clean shafts and regrease Clean and regrease all spring loaded bearings  Ensure side guides are tapered to feed the envelope freely into envelope pickup		30mins	**Pulleys** –Replace after 4million **Belts**-Replace after 6million **Bearings**-Replace after 8million		
A2	Remove envelope feed assembly Check all feed tyres –replace if needed Clean and check gears on track assembly Clean and grease bearings  Clean all feed tyres-replace if needed		45mins	**Slotted feed wheel---C8194A** Replace after 2million **Feed tyres-C8-0209A** Replace after 2million		

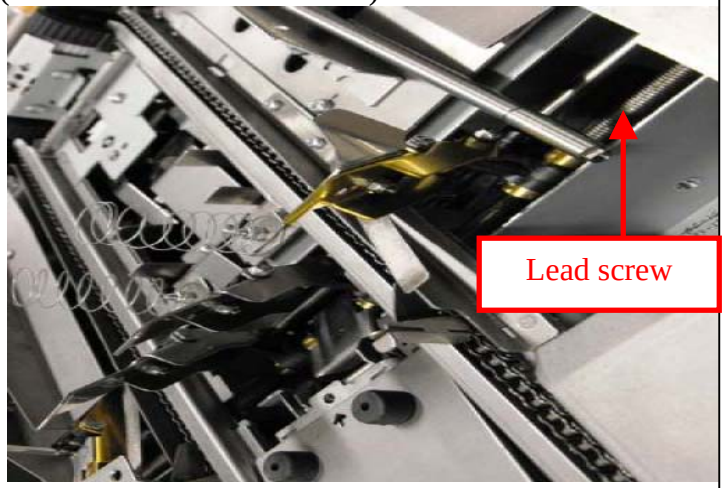
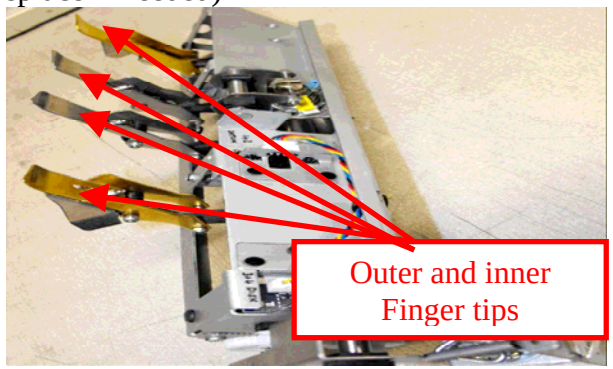
ITEM #	Maintenance Item – Head Unit	Frequency	Time to	Replacement Part Numbers and	Ref Manual	Complete
A2 cont	Clean and check gears on track assembly Clean and grease bearings		10mins	**Gears**---Inspect and replace if worn after 4 million **Lenze clutches**-Inspect after 2million		
A3	Remove separator from envelope feed assembly Check separator roller Check separator shield Replace roller or shield if worn or damaged 		15mins	**separator roller**---C8135A Replace after 4 million **Shield** ---D164_03A Replace after 4 million		
A4	Check flap guide tapes on flap grip assembly (Replace if required) Check and clean needle bearings ensuring no tight spots 		10mins	**Flap guide shim**---G6-0223-A Inspect after 2 million **Needle bearings**--- Inspect after 2 million		

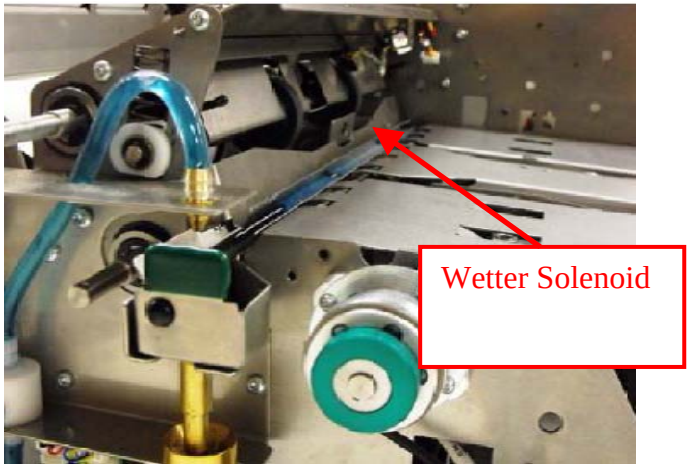
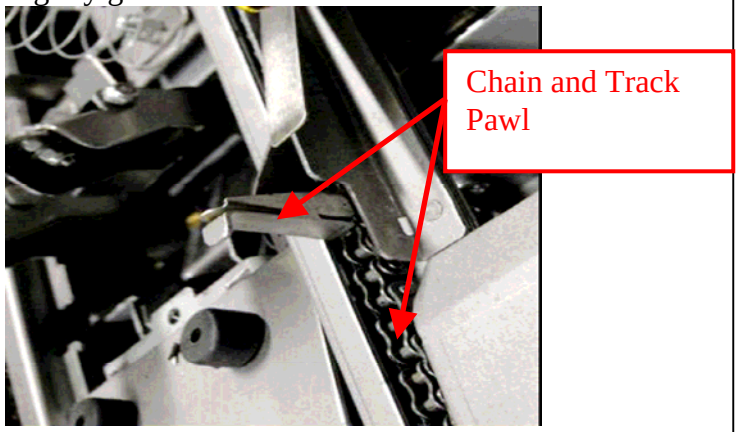
ITEM #	Maintenance Item – Head Unit	Frequency	Time to	Replacement Part Numbers and	Ref Manual	Complete
A4 contd				**Flap guide shims-** Replace after 1million		
A5	Wetter Section Clean silicone rollers and check for wear Replace if worn Clean and grease all bearings. 		15mins	**Lower seal roller (48 dia)** C8-0206-A Inspect and Replace after 2 million **Lower seal Roller (25 dia**) C8-0207-A **Upper seal roller** –C8-0208-A Replace after 2 million		

ITEM	Maintenance Item – Head Unit	Frequency	Time to	Replacement Part Numbers and	Ref Manual	Complete
A6	Clean wetter tank and replace felt .  		10mins	**Wetter Felt**--- G0-0181-A Replace after 1 million		
A7	Remove collate pocket assembly. Clean all feed rollers Check, clean and grease all bearings  		30mins	**Bearings**--Inspect at 2 million **Rollers**—Inspect at 2million		

ITEM #	Maintenance Item – Head Unit	Frequency	Time to Complete	Replacement Part Numbers and Interval cycle	Ref Manual (Page)	Complete
A8	Remove upper Input conveyor assembly Check and clean all upper transport belts  Clean and regrease sprung loaded bearings Clean feed rollers  		30mins	**Belts 140 XL**---F5120A (4 in set 6 belts required) Inspect and clean after 500,000 **Rollers**— Inspect after 2 million **Bearings—** Inspect after 2 million		

ITEM #	Maintenance Item – Head Unit	Frequency	Time to Complete	Replacement Part Numbers and Interval cycle	Ref Manual (Page)	Complete
A9	Clean lower input conveyor belts   		10mins	**Belt 130XL** ---F5120-A Inspect after 2 million **Sprung loaded bearings and springs—** Inspect after 2 million		

ITEM #	Maintenance Item – Head Unit	Frequency	Time to Complete	Replacement Part Numbers and Interval cycle	Ref Manual (Page)	Complete
A10	Check , clean and regrease finger assembly Ensure fingers are not sticking on lead screw shaft or Catching on frame of machine (remove and check if needed)  Check inner and outer finger tips for wear (replace if needed)  		30mins	**Lead screw—** Inspect after 4 million **Inner finger tips---** Inspect and replace after 1 million **Outer finger tips---** Inspect and replace if needed after 2 million		

ITEM #	Maintenance Item – Head Unit	Frequency	Time to Complete	Replacement Part Numbers and Interval cycle	Ref Manual (Page)	Complete
A11	Clean wetter solenoid with dry cloth and air duster to remove dust particles . 		5mins	**Wetter solenoid—** Inspect after 2million		
A12	Clean pawl chain Check gears and tension on pawl chain Lightly grease chain 		10mins	**Chain—** Inspect after 2 million **Track Pawl---** Inspect after 2 million		

A13	Clean all sensors (both transmitter and receiver) With approved air duster		10mins	Replace when faulty		
A14	Check all gears Check pins are intact Clean and lightly grease gears		30mins	Replace when faulty		
A15	Vacuum all areas to remove internal dust		5mins			
A16	Refit Input conveyor assembly (ensuring connector is plugged in)		5mins			
A17	Refit collate assembly (ensuring all connections are securely fitted)		5mins			
A18	Refit envelope feed section (ensuring all connectors are securely fitted)		10mins			
A19 `	Refit envelope conveyor (Checking connector is pushed fully in)		10mins			
A20	Engineer calibrations –Calibrate sensors and check All are working		15mins			
A21	Engineer Calibrations—Check fingers (to 235) Check collate pocket size		10mins			

A22	Engineer settings – Check Motors work		5mins			
A23	Engineer settings—check clutch ,brake and solenoids All work		15mins			
A24	Inspect cables for any damage (replace if needed)		5mins			
A25	Run in envelope only mode checking for envelope stop position and good envelope feed.		10mins			
A26	Run customers job –check finger setup ,feeding, Insertion, wetting and closing		15mins			
A27	Refit all covers and clean. Run machine machine to make sure no covers are Rubbing.		15mins			

3.4 Information for Engineers

3.4.1 Service Procedures and adjustments

The procedures described on the following pages are the recommended methods to be employed when removing or replacing various items.

Note that not all individual spare parts may be available for replacement; in some cases, only the assemblies containing those parts can be obtained. For further clarification, see section 4.

3.4.2 Tools required

No special tools are required for service operation on the machine, though a variety of standard engineer's tools will be needed, including:

- Torx drivers #10, #15, #20 & #25
- Pozidrive screwdrivers #1 & #2
- Set of metric Allen Keys
- Pointed (snipe) nosed pliers
- Right-angled bit drivers
- Side-cutters
- In addition, a stock of cable-ties 100 x 2.6mm 169-102

3.4.3 Electrical Connectors and Sensors

Sensors are supplied as a cable assembly, with the sensor at one end and its two connectors at the other. All sensors (with the exception of flag or disc sensors) consist of a pair, Emitter and Receiver. The receiver is usually mounted below the emitter, though this can vary.

All connectors are marked with the number of the appropriate PCB connector to which it joins

3.4.4 Potential Hazards

Take extreme care if running the machine with the covers open. To run with the covers open, a magnet will be needed to override the safety interlocks. A spare magnet such as fitted to the opening cover (131-824) is most suitable.

The machine is double-pole fused. This means that power may still be present even after switching off at the mains.

Always disconnect the machine from the mains source before removing covers. Don't just switch off.

Ensure the black inner covers on the operator side are in place when work is finished. These covers protect the operator from hazardous areas when the cover is opened.

When removing items such as the envelope feeder assembly, note that some items are very heavy and lifting should not be undertaken unless you feel confident to do so. Seek assistance otherwise.

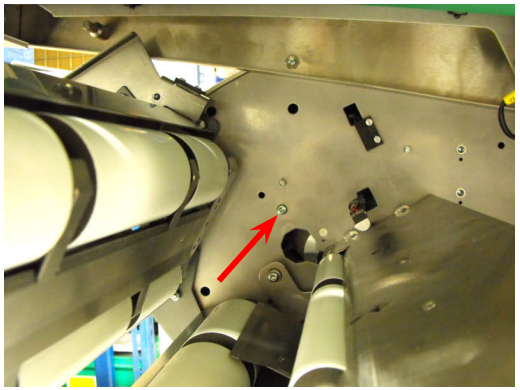
3.5 Removal of covers

Some or all of the covers on the machine will need to be removed for service operations. In some cases where fixing screws are plainly visible, removal is self-explanatory. In less obvious cases, removal is described below.

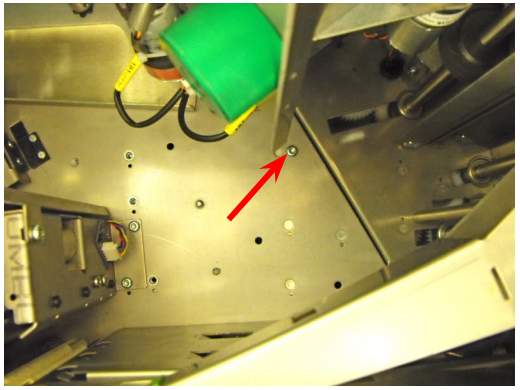
When service operations are complete, covers must be replaced fully – failure to do so could result in a hazard to the operator.

3.5.1 Drive side cover

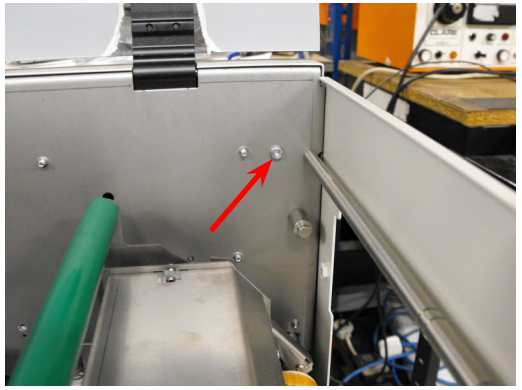
Open the perspex top cover and hinge open the sealer assembly (below the envelope conveyor). Remove the screws shown below, accessed from inside the chassis face.



Visible inside sealer cavity, after opening the sealer.



Visible below envelope separator.



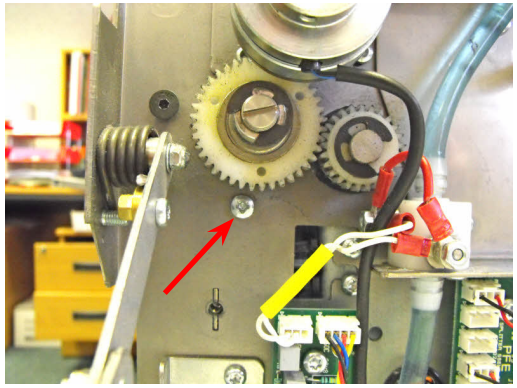
Visible after opening perspex top cover.

When screws are removed, lift the cover upwards of the lower location lugs and lift it off.

3.5.2 Front vertical cover

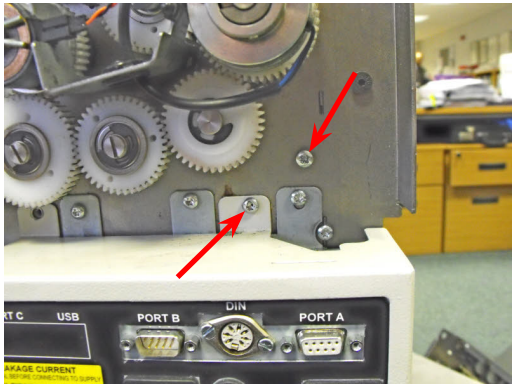
This is located below the sealer and provides access to the wetter piping and no-seal solenoid.

First remove the drive-side cover as above and open the side cover on the operator side.



On the operator side, remove the screw indicated, located below the idler gear

cont.



On the drive side, remove the screw indicated (uppermost). Also shown is one of the lower skirt screws (see 3.5.3 below).

With the screws removed, lift the cover upwards to release 2 hooked lugs and lift it out. When replacing, ensue the hooks are properlay located.

3.5.3 Drive side lower skirt

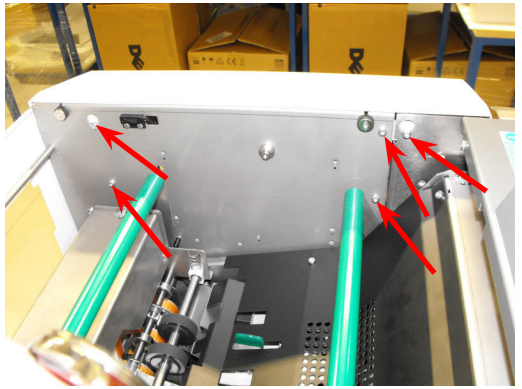
This is located below the drive side cover, which must be removed first in order to access the screws (see 3.5.1).

The skirt is secured with 2 screws and 1 nyloc nut. The front screw is shown in the figure above, the other is located in a similar manner midway; the nut is located at the back end. 2 hooked lugs on the lower edge secure the bottom of the skirt.

When replacing the skirt, ensure the lugs are properly hooked onto the chassis before replacing the screws/nut.

3.5.4 Upper Cover

This is located on the operator side by the perspex cover and covers the Expansion PCB. It is secured by 5 screws and removal is shown below.

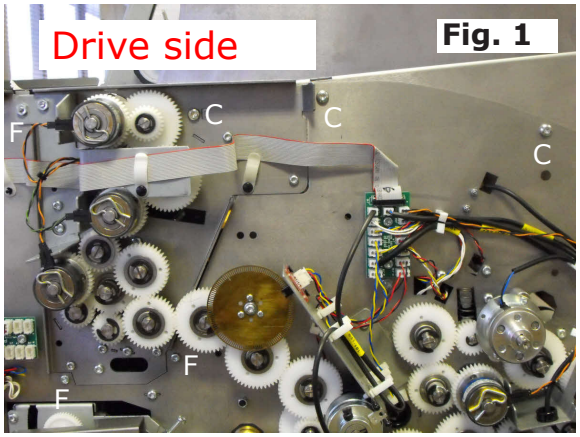


Open the perspex cover and remove the 3 fixed screws. Note that the 2 screws in keyhole slots only need to be slackened.

Most other covers will either not require removal, or should not present a problem to do so.

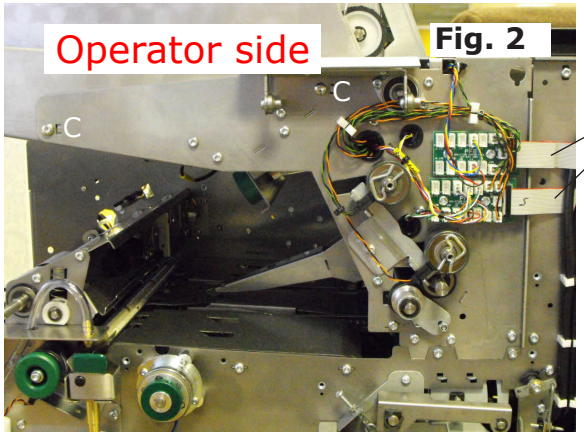
3.6 Removal of Envelope Feeder

1 The envelope conveyor must be removed before the feeder assembly is lifted out of the chassis.



2 Remove the screws marked 'C' on both the drive and operator side (Figs 1 & 2)

3 Unclip the ribbon cable and lift it out of the way.



4 Disconnect the ribbon cables from the PCB.

5 Open the sealer cover under the conveyor and lift the conveyor away from the feeder assembly.

Disconnect the sensor cable on the inner edge of the conveyor as it is being withdrawn.

Remove the feeder

6 Remove the screws marked 'F' on both the drive and operator sides (Figs 1 & 2).

7 Lift the feeder assembly out of the chassis.

When placing the feeder assembly onto a surface, ensure the overguide underneath is not damaged.

8 Reassembly of the feeder and conveyor is a reverse of removal. **Remember to reconnect the sensor cable at the inner edge of the conveyor.**

9 For replacement of conveyor belts, see 3.8.

3.7 Removal/Adjustments of Separator

The separator gap is operator adjustable by reaching in below the envelope feeder and turning the green knob. Turning the knob clockwise opens the gap.

Removal of the separator assembly allows replacement of the separator rollers and also adjustment, if needed, of the shield.

To remove, proceed as follows:

1 Remove the envelope conveyor assembly as described in 3.6.

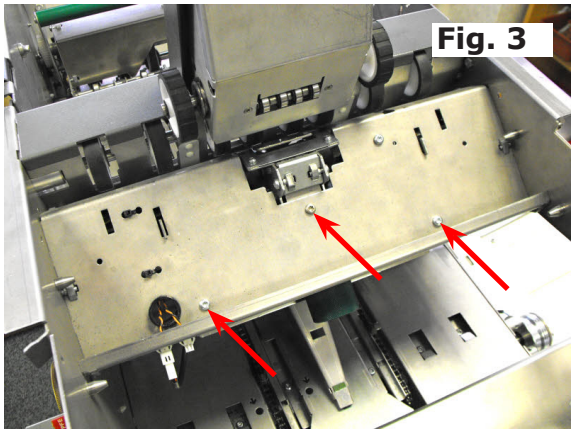


Fig. 3

2 Turn the green knob fully clockwise to back off the rollers and remove the 3 screws indicated in Fig. 3.

3 Disconnect the motor cable at the connector on the chassis bridge, push the assembly forward to unhook the two lugs and lift it out of the chassis.

4 With the assembly removed from the chassis, the rollers or motor can be replaced, or the roller shield can be adjusted (see opposite).

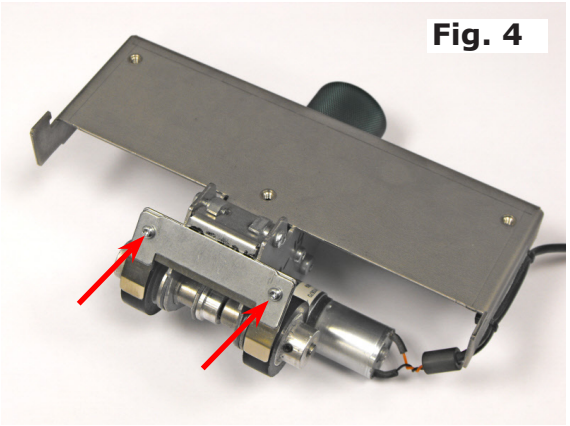


Fig. 4

5 To replace the rollers, simply slacken the set screws and slide the rollers off the shaft.

6 To replace the motor, the assembly will have to be stripped to reach the screws.

7 To adjust the shield, slacken the screws indicated in Fig. 4 and move the shield as required.

The shield is factory set in its lowest (fully forward) position and should not normally need adjustment. Certain problem envelopes that will not separate properly may benefit from moving the shield back. This is a trial and error method, but try setting it fully back to start.

8 Refitting the separator assembly is a reversal of removal. Remember to reset the separator gap.

3.8 Replacement of Envelope Conveyor Belts

The envelope conveyor belts should not normally require replacement as they have a very long life, but if replacement is required due to damage etc, proceed as follows:

1 Remove the envelope conveyor assembly as described in 3.6.

2 Remove the end cover together with the backstop (2 screws underneath).

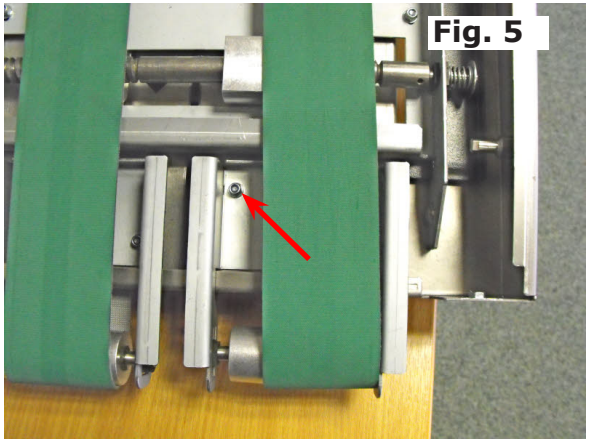


Fig. 5

3 Turn the conveyor upside down and remove the springs on the rollers at the far end of the conveyor.

4 Now remove the roller carrier (see Fig. 5). This will allow the belt to be looped off over the side of the conveyor.

5 Fit the new belt in a reverse manner and replace the roller carrier and springs.

6 Repeat for the other belt.

7 Refit the end cover and reassemble the conveyor back on the machine.

Remember to reconnect the motor cable onto the connector mounted on the chassis bridge.

3.9 Removal of Collate Pocket Clam Assembly

The collate pocket clam assembly pivots on a spigot post each side. Removal entails taking out the spigot on the operator side only.

Removing the assembly is quick to carry out, and allows much improved acces to the collate area.

1 On the drive side, trace the sensor cables for the assembly back to the chassis hole, detach them from the clips and disconnect them from the PCB.

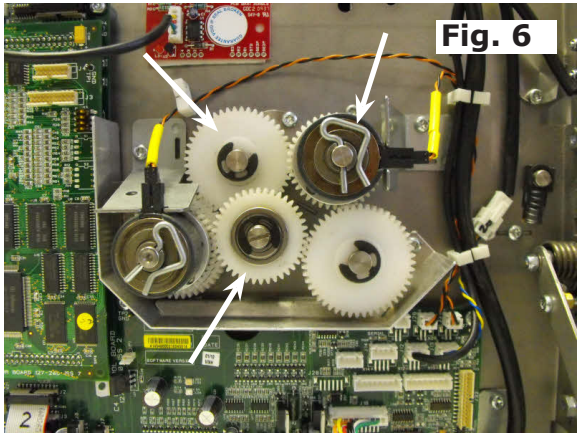


Fig. 6

2 On the operator side, remove the clutch/gear, idler and gear indicated in Fig. 6. Slacken the clutch locators to allow this.

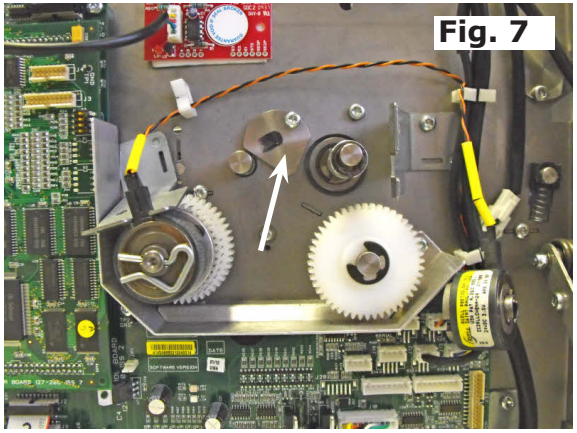


Fig. 7

3 Remove the spigot indicated in Fig. 7 whilst holding the collate pocket clam assembly. Free the assembly from the other spigot and lift it out of the chassis, leading the chassis cable out as it is removed.

4 Reassembly is a reverse of removal.

3.10 Replacement of collate chains or chain pawls

Before removing the collate chains, the Envelope Feeder (see 3.6) and Collate Pocket Clam (see 3.9) must be removed to allow access.

The collate chains need checking as Preventative Maintenance only every 2 million envelopes and will not normally need replacing. However, if they break or otherwise become damaged, proceed as follows.

The chains can be replaced complete with pawls, or one or more pawls only, retaining the chains. **The chains must always be replaced as a pair.**

1 Remove the insert panels – this will allow the chains to flex sideways.

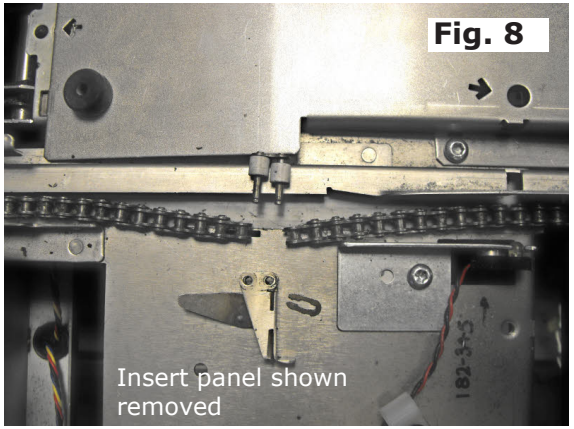


Fig. 8
Insert panel shown removed

2 At the pawl link, remove the spring clip on the outer side and pull out the rollers to separate the chain (see Fig. 8). **Caution: jam the chain at the input end to prevent it sliding inside the chassis.**

3 Use the link to connect one end of the new chain with one end of the existing one. maintaining chain tension, dtoraw it round the pulleys until the other end appears on the chassis surface.

4 Jam the chain to hold it and separate the link to remove the old chain. Join the 2 ends of the new one. If necessary, the chain tension can be relieved by using a screwdriver (or other suitable tool) to compress the tensioner at the input end (see Fig. 9).

Try not to let the chain slip on the sprockets as it is drawn round them, or the pawls will be misaligned. If this happens, see step 6.

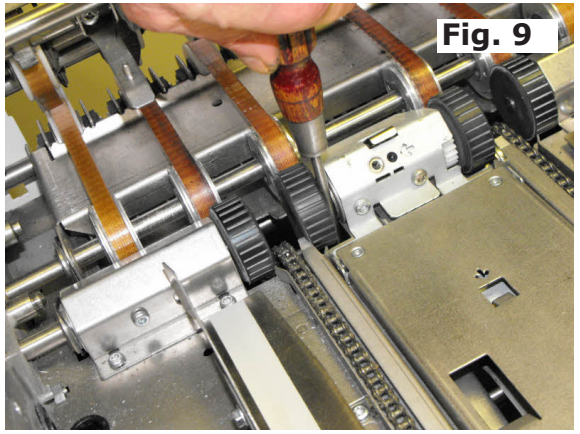


Fig. 9

5 Use a screwdriver or similar tool to compress the spring tensioner.

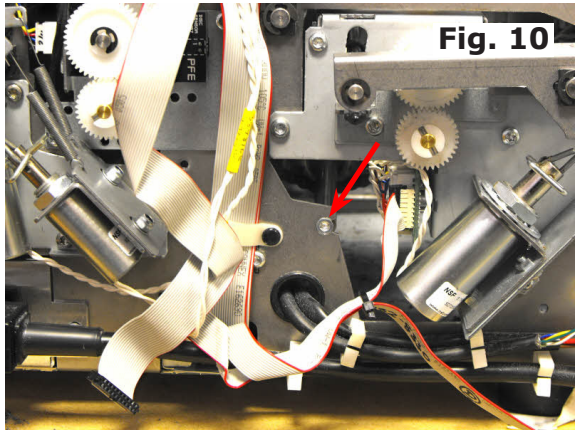


Fig. 10

Pawl misalignment

6 If the chain pawls become misaligned, they can be brought back into line by the following procedure.

7 Slacken the screw indicated in Fig. 10 and release the tension shaft.

8 Hold the forwardmost pawl, and using pointed nose pliers drag the other chain over the required number of sprocket teeth at the output end. When the pawls are aligned, replace the tension shaft.

9 Replace the insert panels and run the machine to check that the chains operate correctly.

3.11 Removal of Finger Assy

Before removing the finger assembly, the envelope feeder assembly must be removed first - see previous section.

1 The finger assembly is withdrawn from the drive side of the chassis after disconnecting the pivot shaft on the operator side.

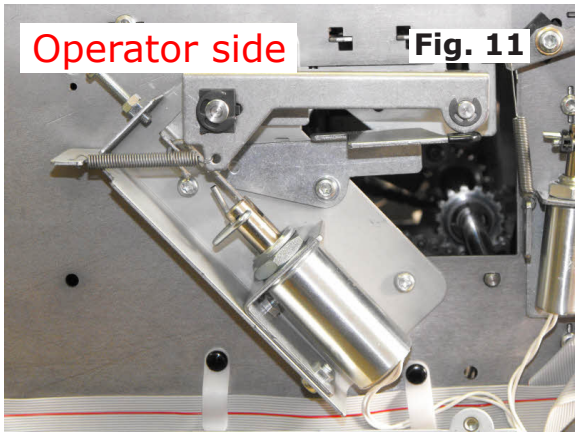


Fig. 11

2 On the operator side, remove the 'E' clip on the end of the pivot shaft.

Do not remove the solenoid from the chassis.

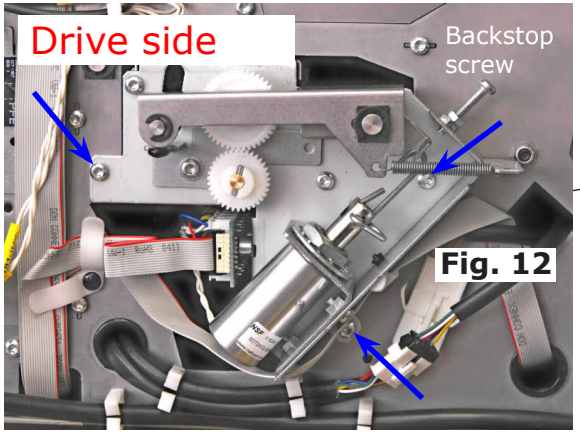


Fig. 12

3 On the drive side, remove the screws indicated.

4 Disconnect the ribbon cable from the PCB and unclip it from the finger chassis.

Remove the finger assy.

5 Withdraw the finger assembly from the chassis, folding the fingers clear of obstructions. **Do not apply undue force when removing the assembly or the fingers may be damaged.**

6 Reassembly is a reverse of removal. With the envelope feeder removed, the fingers should also be adjusted – see the following section. **Note:** to adjust the inners fingers, the finger assembly must also be removed from the chassis.

Solenoids and solenoid springs can be obtained as separate items, but the rest of the assembly can be obtained only as a complete spare.

3.12 Adjustment of fingers

Only the outer fingers are adjusted with the finger assembly in-situ: it must be removed for the inner fingers.

Outer Fingers

To avoid flexing of the actuator bar, the outer fingers are actuated by a solenoid on each side. The fingers are therefore individually adjusted.

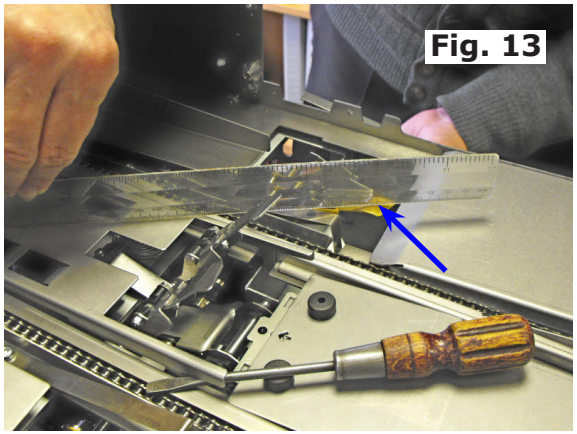


Fig. 13

1 Ensure the envelope feeder is removed (see section 3.6).

2 On the side **not** being adjusted, turn down the backstop screw shown in Fig. 12 so that the pivot lever is fully raised. **Be careful not to strain it.** Lock the screw.

3 On the side being adjusted, pull down the solenoid by hand so the fingers are fully forward. The top surface of the fingers should now be at the same level as the centre insert plate. To check, prop the insert plate with a screwdriver or similar to prevent it compressing the springs and place a straight-edge so that it is flat on the plate, as shown in Fig. 13. The finger should be at the same level as the plate at the point indicated.

4 If adjustment is required, slacken the 2 screws securing the solenoid, and while still compressed, slide it so that the finger just touches the straight edge and tighten the screws. **Note that a right-angled torx driver will be required for the screws.**

5 Slacken the backstop screw and repeat steps 2 to 4 to adjust the other side.

6 Check that the adjustments are correct by actuating both solenoids together and ensuring that the settings have not changed. If necessary, make corrections.

Note: as an alternative to using the backstop screws, the solenoid can be be compressed by hand, and with the screws loosened, adjusted as described whilst holding the straight-edge in place.

The solenoids can be actuated in Engineer mode diagnostics. To operate the machine, close the top cover and place a magnet over the side cover interlock switch.

Inner Fingers

The inner fingers are adjusted using a special setting gauge with the finger assembly removed from the machine, as described in section 3.11.

The setting gauge is located in the top corner of the drive-side chassis face: unscrew it to use.

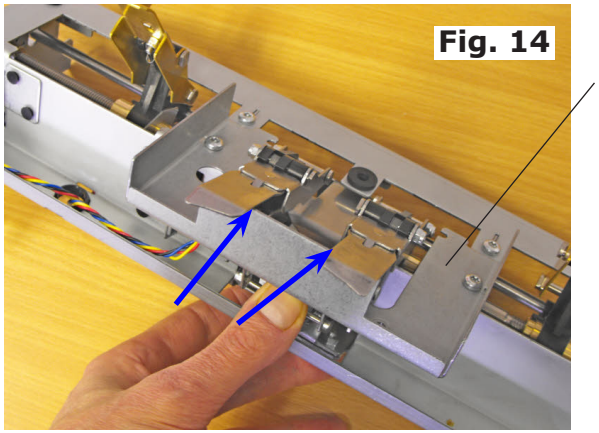


Fig. 14

1 After removing the finger assembly, attach the setting gauge as shown in Fig. 14 using 2 x M4 screws.

2 Pull in the solenoid to advance the fingers: the underside should be 1 - 1.5mm above the edge of the setting guage at the points indicated in Fig. 14.

3 If adjustment is required, slacken the 2 screws securing the solenoid and slide it as required. Tighten the screws and check that the setting has not changed.

4 Replace the finger assembly in reverse order to removal.

Remember to replace the setting gauge when adjustment is complete.

3.13 Removal of Side Guide Adjust Assembly

In order to remove the side guide assembly, the Power Supply Unit must be removed first – see section 3.15

The side adjust assembly consists of a motor-powered lead-screw and provides the mechanism for adjusting the side guides above the chassis surface in the collate area. It is removed from the drive side of the chassis.

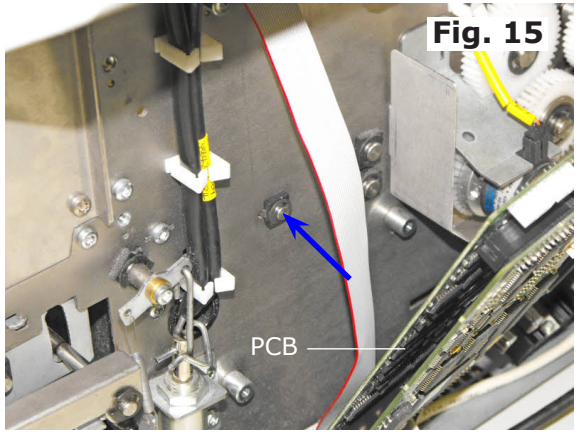


Fig. 15

Operator side

The leadscrew shaft must first have the 'T' bearing removed. This is located under the PCB on the operator side.

1 Remove the ribbon cables on the LH and upper edges of the PCB. Take out the screws and pull down the top of the PCB to reveal the 'T' bearing (see Fig. 15). Remove the 'E' clip and bearing.

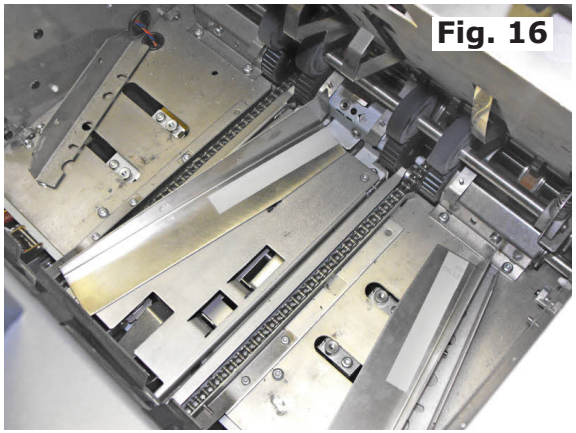


Fig. 16

2 Raise the collate clam assembly in the collate area and remove the side guide brackets and side guides, as shown in Fig. 16. These are attached to the side guide adjust assembly below.

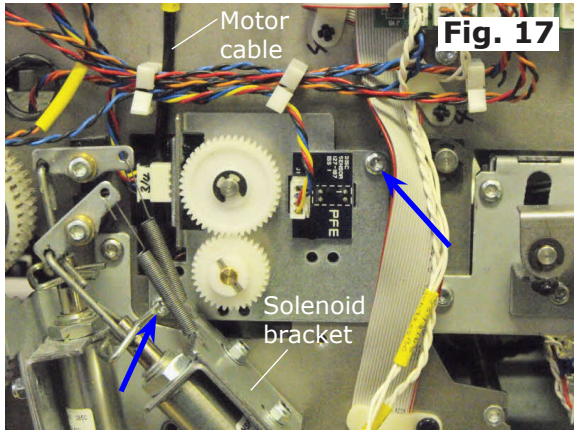


Fig. 17

Drive Side

3 Remove the solenoid bracket screws to allow access for the side guide adjust assembly Fig. 17). It is not necessary to remove the bracket.

4 Disconnect the 2 disc sensor cables shown in Fig. 17 and also the motor cable. Remove the 2 screws indicated. Withdraw the assembly, reaching in through the chassis opening vacated by the PSU in order to hold the side guide carriers free of any obstructions.

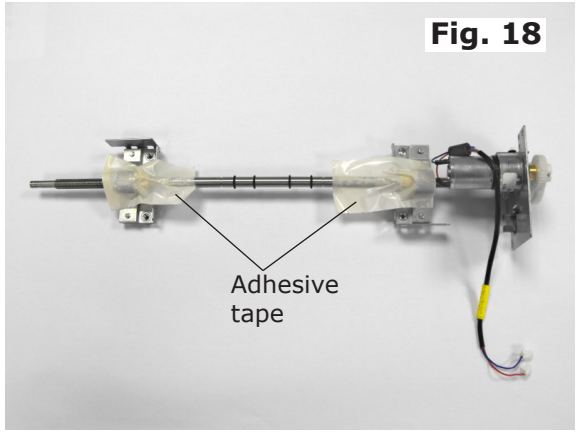


Fig. 18

Replacement

5 Replacement can be awkward due to the side guide carriers swinging upside-down. To avoid this, use adhesive tape to hold the carriers to the lead-screw during reassembly as shown in Fig. 18. Reach in through the PSU opening to help guide the lead screw through the 'T' bearing opening on the operator side.

When the assembly is in place with the carriers the right way up, remove the tape.

6 Replace the 'T' bearing and clip on the operator side, screw the PCB back into place and reconnect the cables. Also reconnect the cables on the drive side.

7 Replace the side guide brackets and side guides in the collate area. **The side guides must now be adjusted** – see section 3.14.

3.14 Adjustment of Side Guides

The side guide width is automatically set according to document size. However, the side guides are factory set to toe-in at the front. If the guides have to be removed or disturbed, the toe-in must be reset to toe-in at the front.

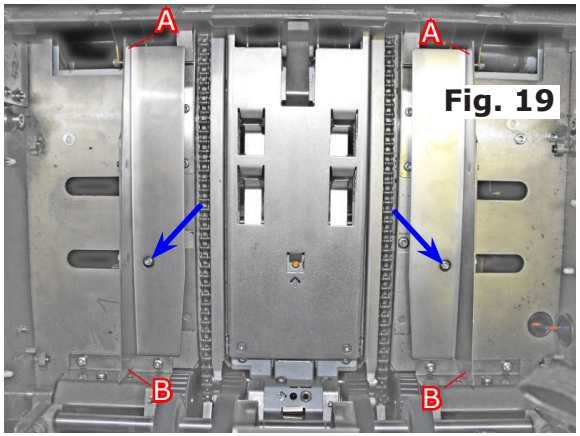


Fig. 19

1 Open the collate pocket assembly in the collate area. Slacken the 2 screws indicated in Fig. 19 to allow the guides to swivel.

Adjust the guides so that point B is 1.5mm (1/16”) wider **each side** than point A. This is most easily achieved by placing a piece of paper between the guides and winding the gears by hand to move them. The gap can then be easily measured.

Tighten the screws and check that the setting has not altered. The toe-in applies to all document sizes.

3.15 Removal of Power Supply

The power supply unit can be removed from the drive side of the machine after disconnecting cables on the operator side.

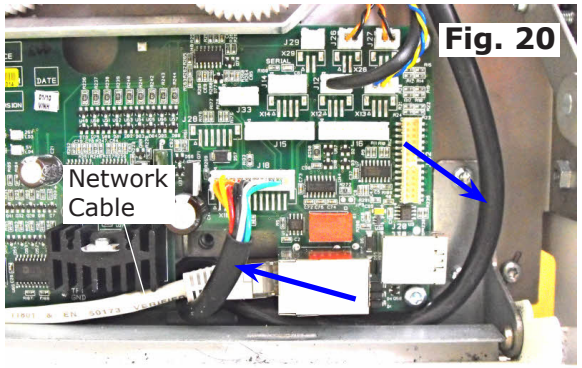


Fig. 20

Operator side

The PSU must first be disconnected on the operator side.

1 Disconnect the two cables indicated in Fig. 20. Unplug the network cable to allow access for the PSU cables to pass through the opening.

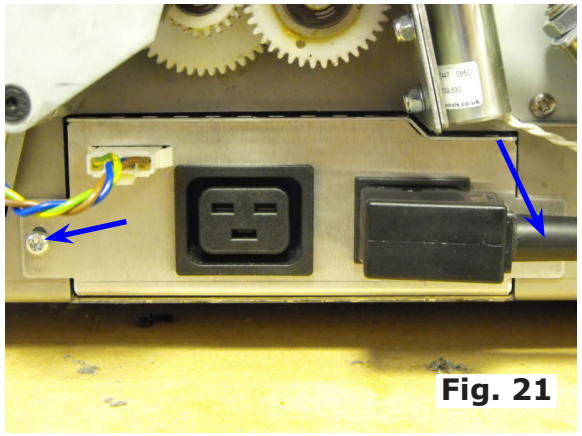


Fig. 21

Drive side

2 Remove the 2 screws indicated in Fig. 21 and withdraw the PSU, feeding the connectors through the chassis opening on the operator side.

Replacement

Hold the cables and reach in the chassis opening on the drive side and feed the connectors through the opening on the operator side. Push the PSU home. The lugs on the operator side must locate in the chassis plate before the PSU will fit.

Tape or bind the cables together to assist with feeding them through the operator side opening.

3.16 Replacement of Sealer Rollers

There are four sealer rollers: two in the chassis, two in the opening sealer assembly. They should be checked for wear or damage at every site visit and replaced at 2 million envelopes.

To remove the rollers, this can be done with the envelope feeder in place, but the sealer assembly will have to be removed first (see section 3.17). Having done so, proceed as follows.

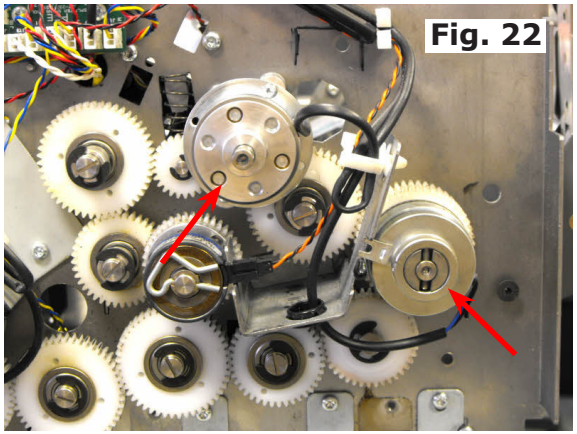


Fig. 22

Drive side (chassis rollers)

1 Open the sealer assembly and remove the clutches, gears, 'E' clips, bearings and waved washers indicated in Fig. 22. Slacken, but do not remove, the clutch location bracket to facilitate this.

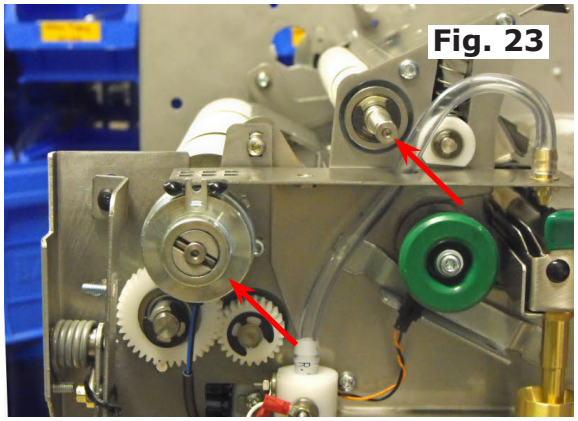


Fig. 23

Operator side (chassis rollers)

2 Remove the clutch, gears, 'E' clips, bearings and waved washers indicated in Fig. 23. Remove the screws for the float switch bracket to facilitate this, but do not remove the bracket.

3 Lift the rollers out of the chassis, utilising the access slots to do so. The lower roller can be removed by 'springing' the surrounding metalwork slightly.

When fitting the new rollers, take care not to damage the lower roller as it is refitted. Do not get grease on the rollers.

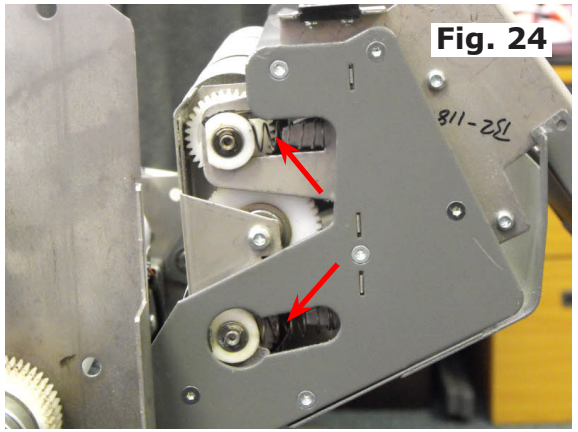


Fig. 24

Sealer Assembly Rollers

1 Open the sealer assembly and on both sides, remove the bearing springs shown in Fig. 24.

2 Remove the 'E' clips on the ends of both sides of the uppermost roller only.

3 The roller sub-chassis can now be lifted out of the sealer assembly and the rollers removed.

4 Reassemble in reverse order to replacement.

3.17 Removal of Sealer Assembly

The sealer assembly can be quickly removed for replacement of sealer rollers (see section 3.16). Proceed as follows.

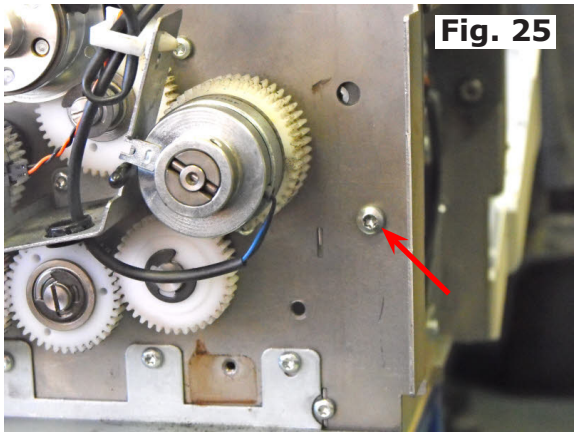


Fig. 25

1 Open the sealer assembly and remove the pivot screw on each side (Fig. 25 shows drive side - operator side is similar).

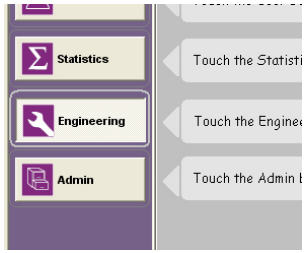
2 Lift the assembly out of the machine.

Reassembly is a reverse of removal.

When replacing the pivot screws, insert a screwdriver or drift in one hole to align the assembly whilst fitting the other one.

3.18 ENGINEERING MODE

To enter Engineering mode, select the 'Engineering' button from the setup screen.



Engineering mode allows the following functions:

- Hardware Setup
- Units Setup
- Firmware Download
- Diagnostics
- Reader Setup
- Machine ID
- Plug and Play

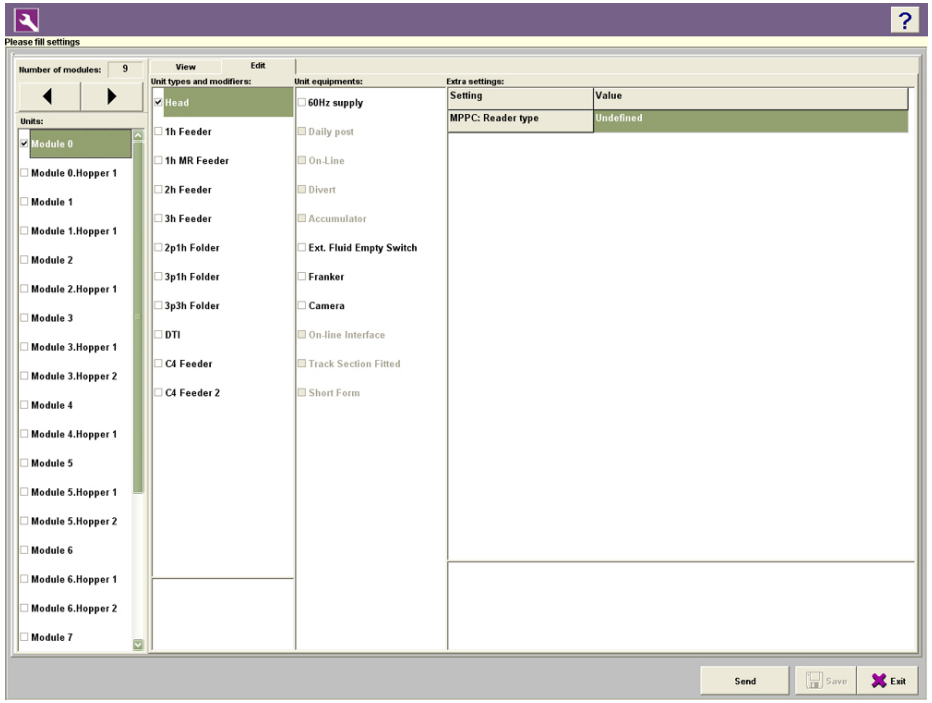
Note:

Engineering mode will only be available to personnel with appropriate access rights.

Engineering mode applies to the whole machine, hence this section covers feed/fold modules, as well as the insert head. Modules not relevant to the actual machine setup should be ignored.

3.18.1 Hardware Setup

Configures the physical machine. When the machine is first set up, or if new units are added or altered (eg. a reader is added), **Hardware Setup** must be set to reflect each unit and its features.



To make changes select the **Edit** tab. Select each unit in turn in the left-hand column, choose the unit type in the centre column and select the required options in the right-hand column. Extra settings relating to readers are shown in the pane on the right-hand side. For Feed/fold units, the readers fitted are selected with the module highlighted, then the reader options for each hopper are selected with the module hopper highlighted.

To view all settings without making changes, select the **View** tab and select each module or its hoppers.

To add new modules to the end of the existing ones, use the ▶ button and configure to suit.

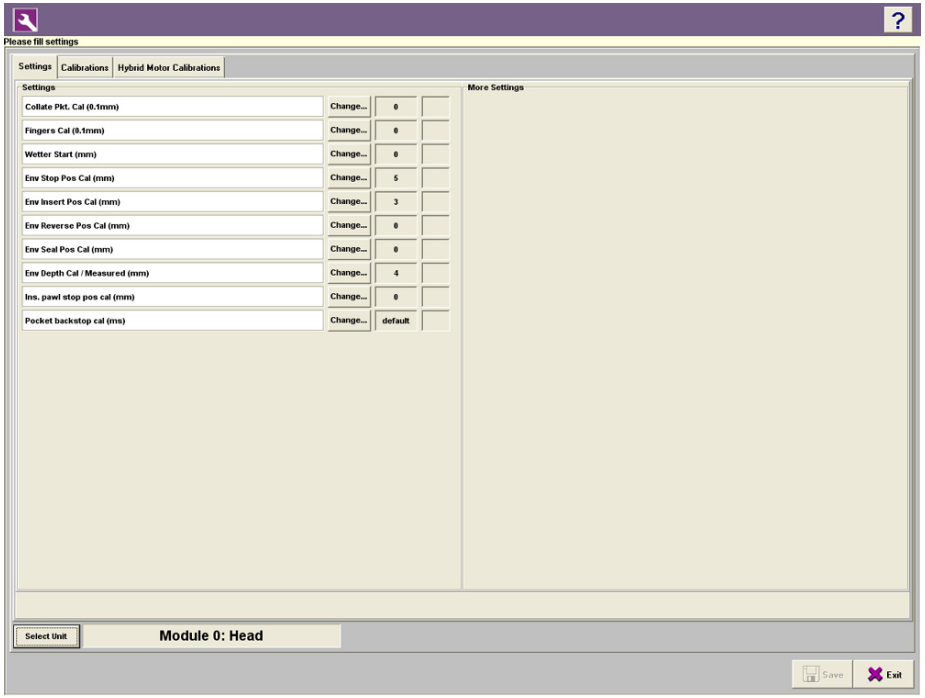
cont.

To delete existing modules, use the button. **Important:** modules are deleted from the end. If a module is removed that is not the end module, all module settings after that one must be re-configured.

However, in practice, when a module is added or removed, providing that the DIP switches have been correctly set, the modules can be automatically re-configured using **Plug and Play** (see later in this section for details).

3.18.2 Units Setup

This allows adjustment of various settings, depending upon the module selected using the button at the bottom.



Settings tab

This allows adjustment of various settings, depending upon the module.

Module 0: Head adjustment of:

Collate Pocket Cal & Fingers Cal: These settings are in addition to any changes made in 'Calibrations' (see later in this section). Use if the settings need to be different from the calibrated sizes.

Wetter Start: Adjusts the point at which the wetter beam drops to wet the flap (+ve = more wetting). In steps of 1mm. **Note:** this setting applies to the machine, and can be further adjusted for the job in 'Advanced'.

Envelope Stop Position Cal: Adjusts envelope stop position. Positive = further forward towards exit direction.

Envelope Insert Position Cal: Adjusts amount of insertion of insert pack into envelope. Positive = further forward past flap crease.

Envelope Reverse Position Cal: Adjusts amount of envelope forward travel after flap wetting, before reversing to enter sealing rollers. Positive = further forward into rollers, towards exit direction..

Envelope Seal Position Cal: amount of envelope travel into seal rollers. Positive = further forward, away from exit direction.

Envelope depth Measured: auto-measured depth of envelope, which will be displayed. Adjust up or down to suit actual envelope size. Positive = greater.

Ins. Pawl Stop Position Cal: Adjusts stop position of insert pawls behind insert pack in collate pocket. If the pawls are stopped too high by the software, inserts entering the collate pocket will contact the tips, hence position must be adjusted back. Positive = further forward.

Pocket Backstop Cal: As inserts enter the collate pocket, they contact a backstop to prevent overrun, and stop. The backstop is then lowered and the insert drives forward. This setting increases the time delay before the insert drives forward. Use if backstops are slow to drop for any reason, causing crashing. If set to Off, backstop remains lowered always.

Feeders (dual only): Collate Feeder 2 Cal: Moves the form in hopper 2 to adjust collate point. Positive = further forward, in steps of 1mm.

Feeder Folder: Folplate 1/2 Cal. & No Fold 1/2 cal: These are the same as 1 & 2 of the 3-Plate folder (see below).

Tower Folder: adjustment of:

a: settings of foldplates 1, 2 & 3. Figure shown will be the setting for the job, and may be adjusted if required. Units are 1mm and positive = greater. To set up for the first time, or if parts have been replaced:

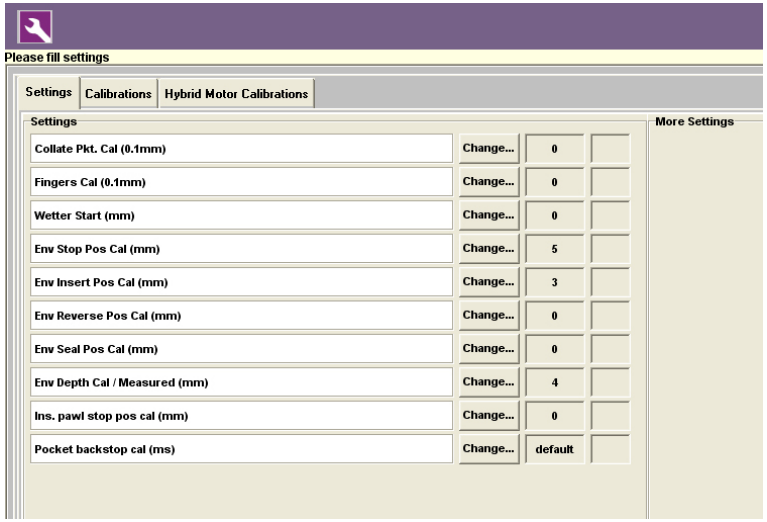
1. Set up a job with the following parameters:

European: Envelope = C5 (162 x 229), Paper = A4 single sheet from top hopper, Fold = V.

US: Envelope = No. 7 Booklet (159 x 244), Paper = Letter size single sheet from top hopper, Fold = V.

2. In the configuration screen, select the number at the top of the fold module icon: check the Fold Plate Length settings in the dialog box (see below). For A4, F1 should be 149mm and F2 & F3 should be 0. For Letter, Length A should be 140mm and F2 & F3 should be 0.

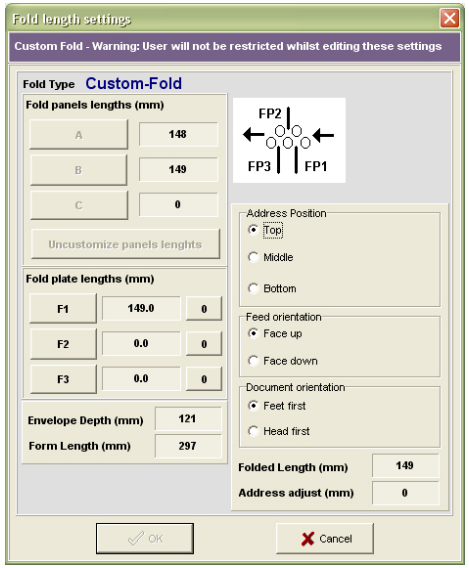
3. Save the job and run. Measure the length of the first panel, which should be 149mm (A4) or 140mm (Letter). If not, exit Configuration and enter Units Setup in Engineering mode. Select the Tower Folder in the module box at the bottom of the screen: this will display the settings boxes for the foldplate calibrations (see following page).



4. In Foldplate 1 Cal, enter the **difference** between the measured length and the length displayed in Configuration, ie. if the measured length is 152mm, select 'Change' and enter -3.

5. Run the job to check the length is now correct (149mm in this case).

6. To calibrate foldplate 2, return to Configuration and enter the dialog box described in step 2. Change the fold type to 'Custom Fold' and hit the Fold Plate Lengths button to open the Foldplate Settings box (see opposite).



6. Set F1 and F3 to 0 – this will blank off foldplates 1 & 3.

7. Repeat steps 3 to 5 for Foldplate 2 Cal.

7. Repeat for foldplate 3, except that F1 & F3 are set to 0, and make any necessary corrections for Foldplate 3 Cal.

b: calibration of no-fold blanking beams 1, 2 & 3. Adjusts gap between tip of beam and fold roller. If forms are not entering a fold plate when they should, gap must be increased and vice versa. Units are 0.1mm of motor actuator which equates to 1mm at beam tip. Positive numbers only.

c: alignment of leading edges when collating before feeding. Applies to feeders 2 & 3. Units are 1mm and positive = further forward.

Cardfolder: adjustment of:

FP1 Up Cal: Controls paper travel into FP1 in 'up' position. Positive = further. Factory default = 4. (Mk.1/2).

FP1 Down Cal: Controls paper travel into FP1 in 'down' position. Positive = further. Factory default = 0. (Mk.1/2).

FP2 Up/Down Cal: As for FP1. Factory defaults = 0 & 0. (Mk.1 only).

FP2 Clockwise Cal: Controls paper travel into FP2 for CW rotation, (from operator side). Positive = further. Factory default = 0. (Mk.2 only).

FP2 Counter CW Cal: Controls paper travel into FP2 for CCW rotation, (from operator side). Positive = further. Factory default = 0. (Mk.2 only).

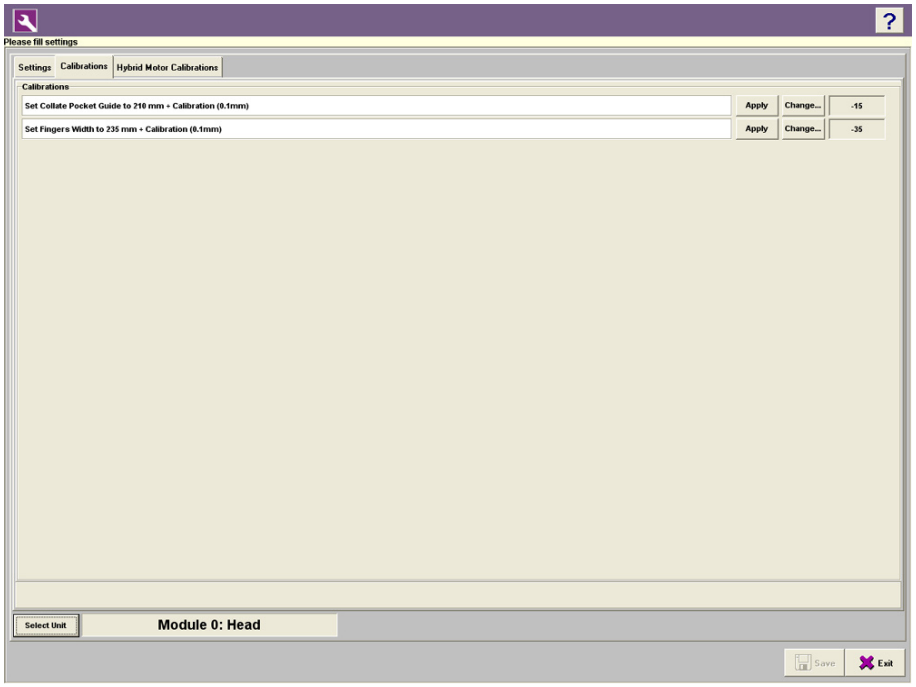
Up Detent CW: Controls detent landing position for cassette home position. Positive increases rotation. Factory default = 0. (Mk.2 only).

Down Detent CW: Controls detent landing position for cassette after 180° rotation. Positive increases rotation. Factory default = 0. (Mk.2 only).

Up/Down Detent Counter CW: As for CW, but rotating Counter CW. Factory defaults = -4 & -3. (Mk.2 only).

Conclusion of Settings section.

Calibrations tab

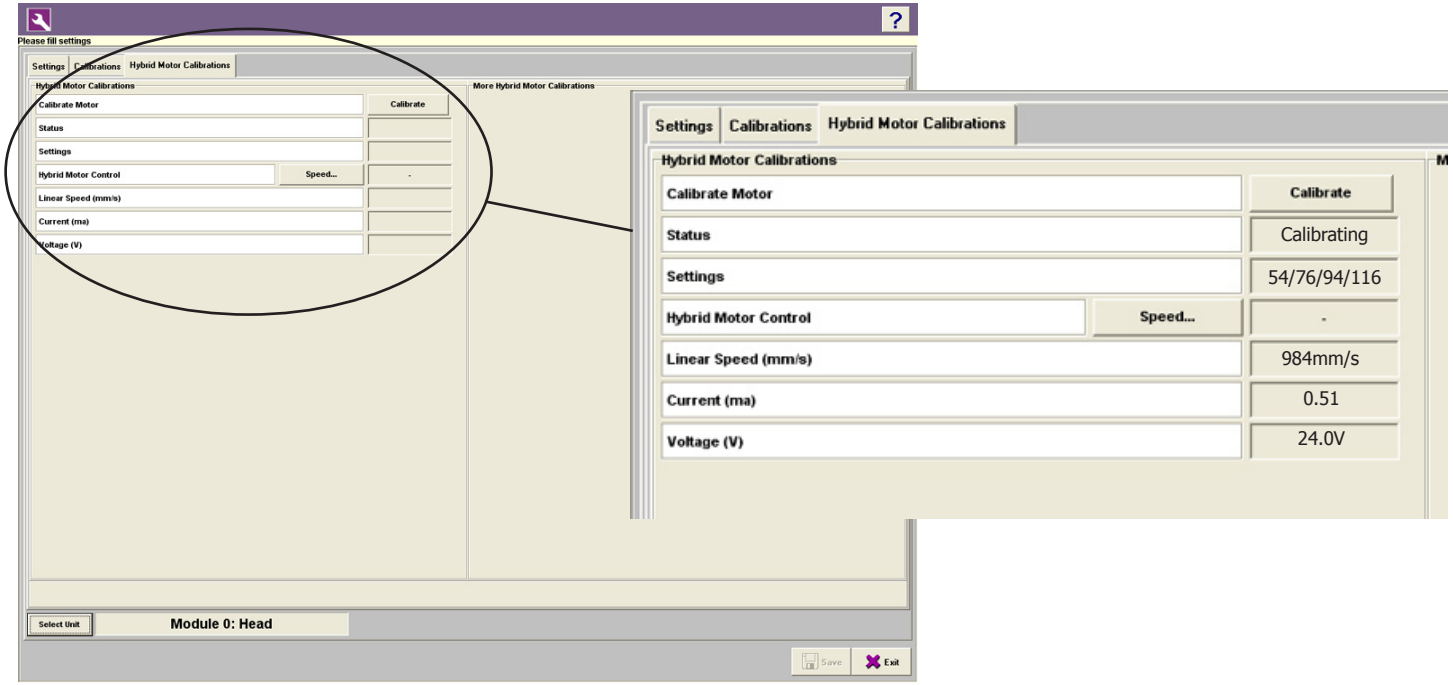


This screen applies only to the insert head, and is used to set the collate pocket side guides and the insert fingers to A4 size (210mm). When these options are selected, the motors for the settings will automatically adjust to the correct size. They should then be measured, and any difference should be corrected out using the adjustment boxes - positive numbers increase the width.

Note that the measured distances should be 210mm exactly. Appropriate clearances will then be automatically applied by the software, which will suit most job applications. It it is required to alter the settings, use the adjustment boxes as described above. These settings will then remain until set otherwise.

Note also that the collate pocket side guides are adjustable for taper and are factory set to taper intowards the closer end. The 210mm setting above applies to the narrowest point - the widest point is set to approx. 3-4mm wider either side. Specific jobs may require a diferrent setting; to adjust, slacken the screw near the middle of the guide and twist the guide to suit.

Hybrid Motor Calibrations tab



This screen applies only to the insert head, and is used to calibrate and test the hybrid motor. This should not normally be required as the motor is factory calibrated, but if operating problems may indicate the motor, it should be carried out. The machine should be clear of stationery when doing so.

When the **Calibrate** button is selected, the motor slowly increases in speed up to a maximum, and sets 4 calibration points as it does so: low, medium, normal & high. These unitless points are displayed in the 'Settings' cell. The linear speed (of the paper), current and voltage are also displayed.

Selecting the **Speed** button allows the motor to be tested at low, medium and normal speeds. The motor will continue running until 'Off' is selected.

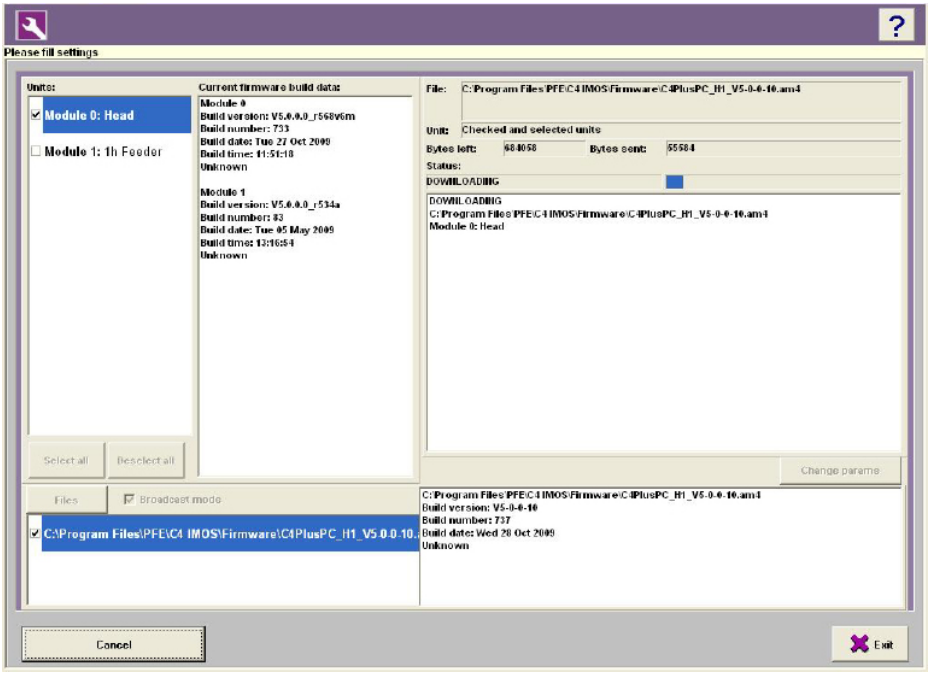
3.18.3 Firmware Download

Firmware downloading allows selected units to be upgraded with selected files, usually sourced from the company website.

Select the unit(s) to be upgraded and use the 'Files' button to find the appropriate .am4 file(s). Note that each file includes the module name in the filename, ie. for head, 3P folder or feeder/2P folder/ Cardfolder. The lower windows show the version number and status of the file. These can be compared with the main window showing the same details for the current firmware in the unit.

Normally, all modules should be ticked in the left-hand column and **Broadcast Mode** should be ticked also. This will allow multiple modules of similar type (feed/fold modules or Cardfolder) to be upgraded simultaneously, saving time; only untick if a module is specifically not to be upgraded. It does not matter if, for example, the head were ticked whilst feed/fold modules were being upgraded.

When downloading, the righthand window shows download status in progress.



Change Params: this is a legacy feature and should not normally be required unless a different CAN type were used. The default settings are:

	USB CAN
Packet	4
Send Interval	1
O/Flow Timeout	10

When downloading is complete, select **Exit.**

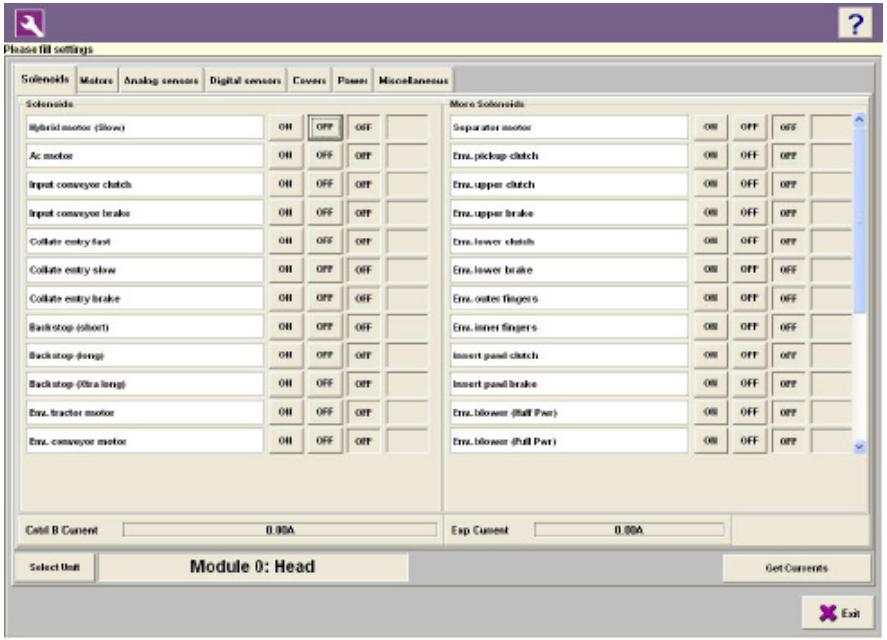
3.18.4 Diagnostics

Diagnostics allows sensors to be calibrated and components (motors, clutches, brakes, solenoids etc) to be tested. The voltage and current drawn by the sensors is shown as a read-only display, and their clear or blocked status is indicated. Component tests will run each selected component to confirm it functions.

Note: the screens may vary in appearance from that shown, depending upon the module type.

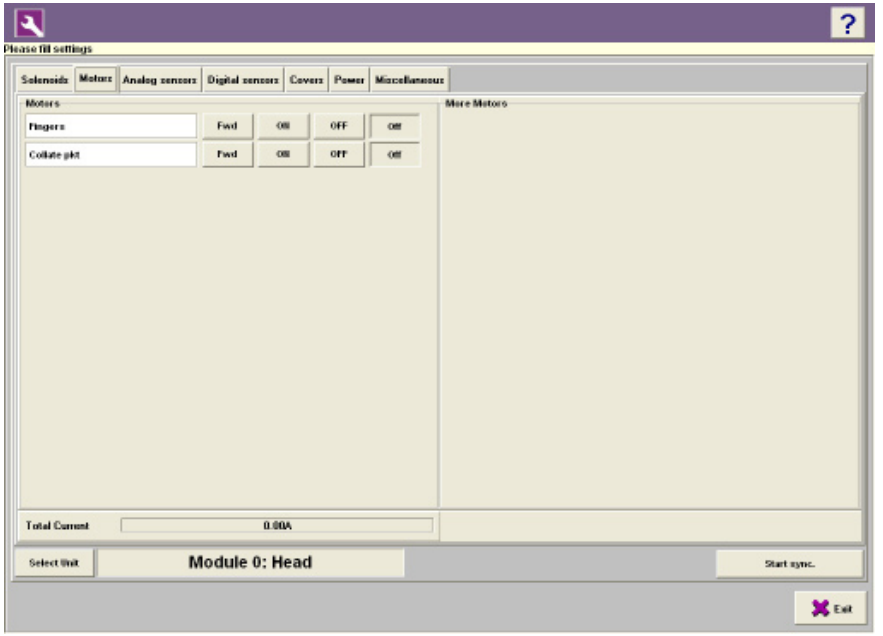
Solenoids

This includes other clutches, brakes and AC motors also. Allows various components to be switched on or off to test them and provide a readout of current rating. Components shown will depend upon type of unit selected and will include some or all of: clutches, brakes, solenoids and indicator LEDs. Drive motor is also included for each module, as this must be switched on to test some other components.



Motors

Tests the DC motors for collate pocket, fingers and foldplates. Applies only to insert head and tower folder.



The **Fwd** button toggles between forward, reverse and forward+reverse (alternating). Select the required direction, then **On** to start, **Off** to stop. The right-hand column indicates the status.

Start Sync applies only to Tower Folder fold plates. It will cause the backstops to travel to the far end of the fold plate, then reset for the selected job.

Select each module as required using the **Select Unit** button.

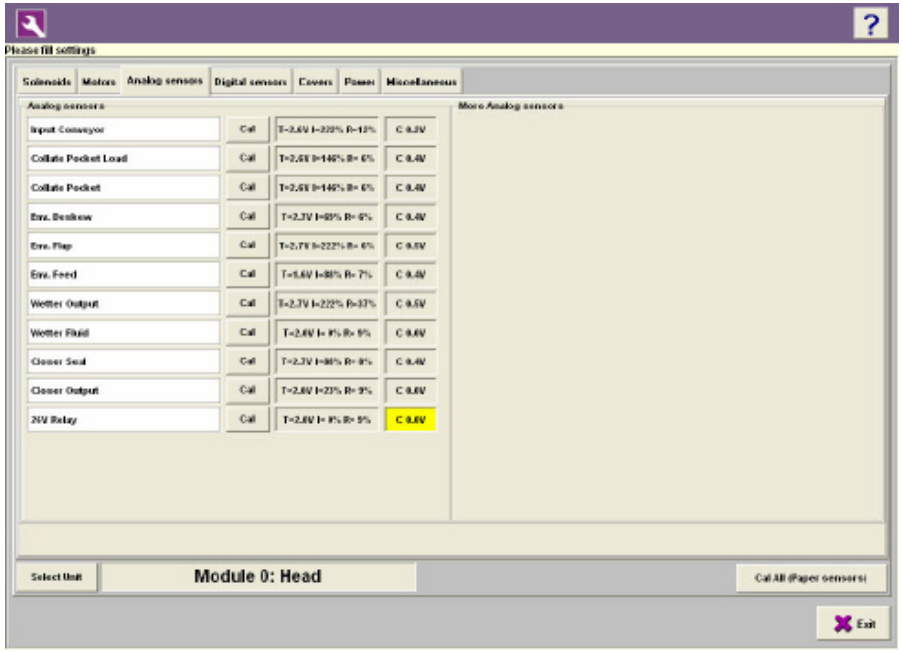
Analogue sensors

Analoque sensors are those that respond over a graduated range, unlike digital sensors which are read as either On or Off. They are usually adustable.

The screen displays the status of analogue sensors and allows their calibration. The read-only displays translate as follows:

Example: T=2.6V I=222% R=12% C 0.2V

Where T = Threshold voltage, generally over 2.5V, I = 'effort' of current required to read across the sensor halves, R = Percentage of pot value on PCB, C (or B) = clear or blocked and sensor voltage, which should <0.5 clear, >4.5V blocked.



Calibration

Sensors can be calibrated individually or all together by using the **Cal All (Paper sensors)** button.

Generally, the readings are best used as a comparison guide for like sensors from one machine to another. However, if a sensor has failed, the readings are likely to be very low or zero.

Select each module as required using the **Select Unit** button.

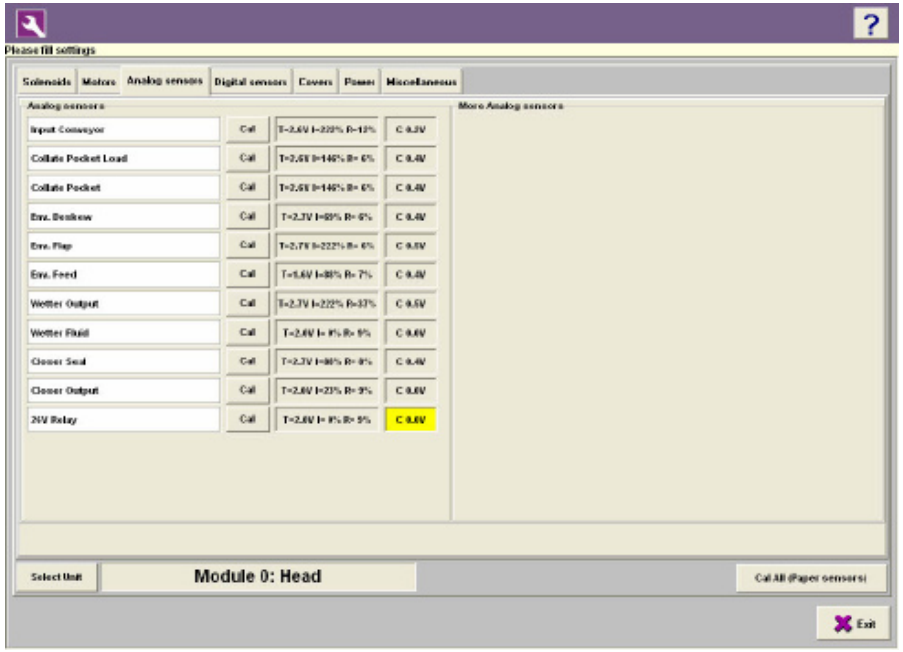
Digital sensors

Analoque sensors are those that respond over a graduated range, unlike digital sensors which are read as either On or Off. They are usually adustable.

The screen displays the status of analogue sensors and allows their calibration. The read-only displays translate as follows:

Example: T=2.6V I=222% R=12% C 0.2V

Where T = Threshold voltage, generally over 2.5V, I = 'effort' of current required to read across the sensor halves, R = Percentage of pot value on PCB, C (or B) = clear or blocked and sensor voltage, which should <0.5 clear, >4.5V blocked.



Calibration

Sensors can be calibrated individually or all together by using the **Cal All (Paper sensors)** button.

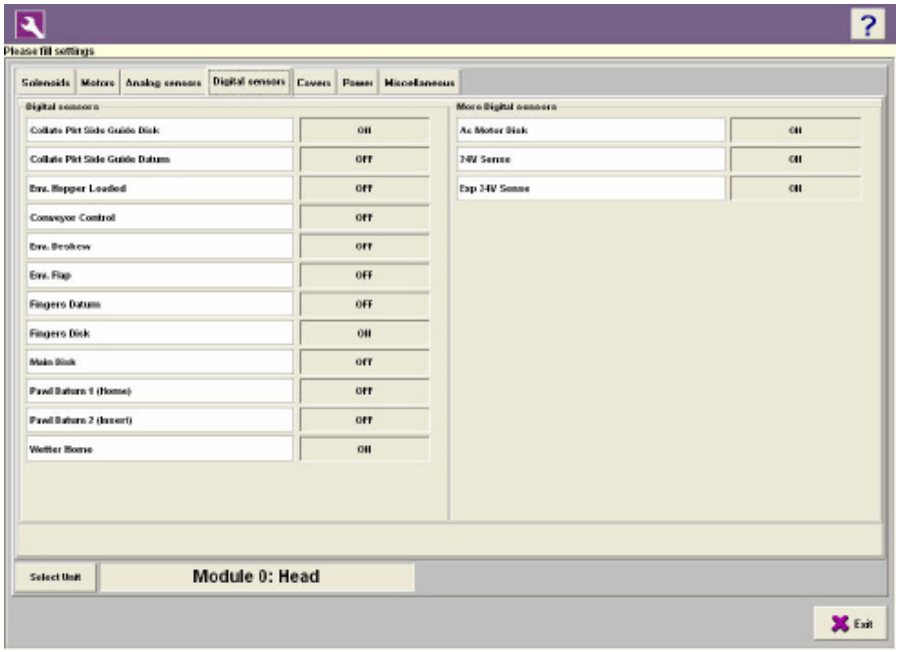
Generally, the readings are best used as a comparison guide for like sensors from one machine to another. However, if a sensor has failed, the readings are likely to be very low or zero.

Select each module as required using the **Select Unit** button.

Digital sensors

Analoque sensors are those that are read as either On or Off, unlike digital sensors which respond over a graduated range. They are not adustable.

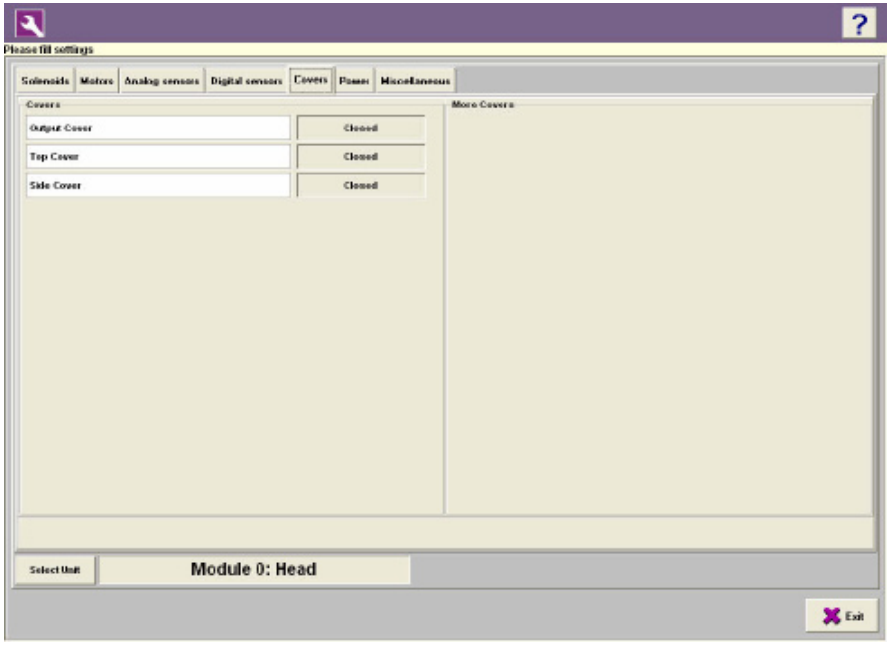
The screen displays the **On/Off** status of each sensor. To check if a sensor is working, it should be On when blocked, Off when clear. Any semnsor that does not respond this way should be replaced



Select each module as required using the **Select Unit** button.

Covers

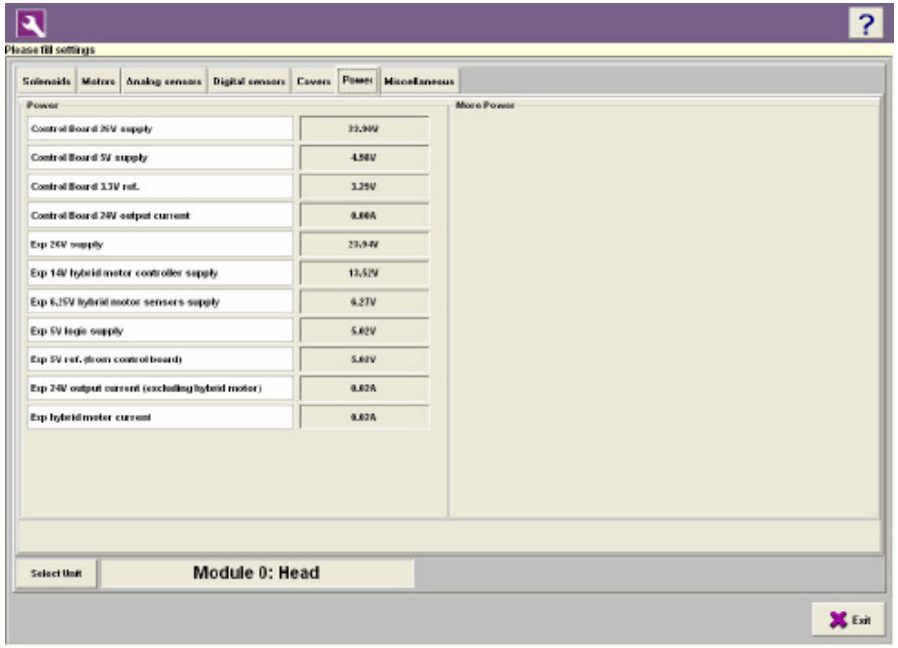
Displays the status (open or closed) of all operator-opening covers and hopper interlocks. This will indicate if a reed switch has failed or is badly adjusted.



Select each module as required using the **Select Unit** button.

Power

Displays the voltage or current drawn by each component. The component name indicates the nominal voltage/current, while the display indicates the actual rating.

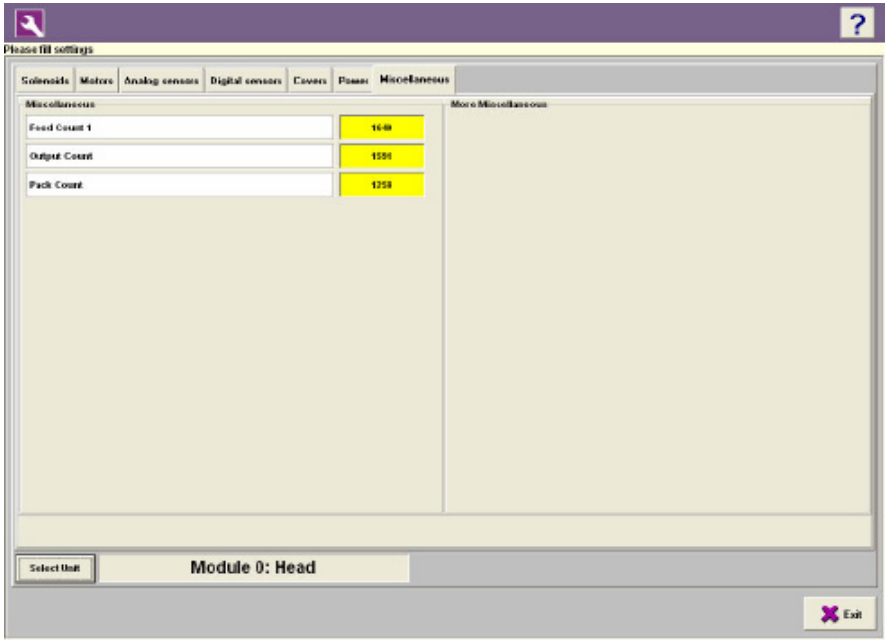


Select each module as required using the **Select Unit** button.

Miscellaneous

Displays the total count for each module. For insert head, Feed Count 1 is the number of envelopes fed, Output Count is the number of filled envelopes ejected and Pack Count is the number of packs that have arrived at the collate area for insertion into the envelope.

For tower folder, feed counts 1 to 4 relate to the hoppers, where hopper 4 is the hand-feed hopper.



Select each module as required using the **Select Unit** button.

3.19 RECOMMENDED SPARE PARTS

Shown below are the spare parts recommended to be held by Service Agents. Quantities shown are per machine.

Consumable items are marked in the right-hand column: these might need to be ordered more frequently.

To obtain a 230V list, order part number A0-0530-A (9110259C).

To obtain a 115V list, order part number A0-0531-A (9110260D).

ITEM	P/N (PFE)	P/N (SAP)	DESCRIPTION	QTY	CONS.
1	A2-1057-A	9110112Z	MOTOR ASSY, 230V	1	
			or		
1a	A2-1056-A	9110111Y	MOTOR ASSY, 115V	1	
2	179-109	9108382Z	CLUTCH EC30LL CW 8MM 24V	1	
3	181-050	9100779C	MTR W/D 179-093 IN-LINE	1	
4	181-128	9100807G	CLUTCH W/D 179-155 2WXH	1	
5	181-129	9100808H	BRAKE W/D 179-105 2WXH	1	
6	181-1600	9109569J	SOLENOID W/D 179-3540 XH	1	
7	182-8450	9109554T	LOOM C4 HYBRID MTR LINK	1	
8	180-702	9100715L	PCB ASSY ENV WETTER	1	
9	180-720	9100723U	PCB ASSY AM4 PROCESSOR	1	
10	180-721	9109914T	PCB ASSY AM4 CNTRL BRD	1	
11	180-759	9100744R	PCB SPLIT 5SEN 5SOL H/D	1	
12	180-776	9110109W	PCB WIDEBODY DISK SENSOR	1	
13	180-8300	9100723U	PCB C4 EXPANSION	1	
14	181-048	9110257A	MTR ASSY PERISTALTIC 24V	1	
15	182-340	9100978K	LOOM EMITTER 200 SM	1	
16	182-342	9100980M	LOOM RECEIVER N/A 200 SM	1	
17	182-345	9100983Q	LOOM RECEIVER N/A 300 SM	1	
18	182-440	9101010T	LOOM EMITTER 200 XH	1	
19	182-441	9101011U	LOOM RECEIVER W/A 200 XH	1	
20	182-443	9101013W	LOOM EMITTER 300 XH	1	
21	182-451	9101018B	LOOM 4W-3W/3W XH 0.2M	1	
22	182-495	9101033S	LOOM A5 WETTER PROBE	1	

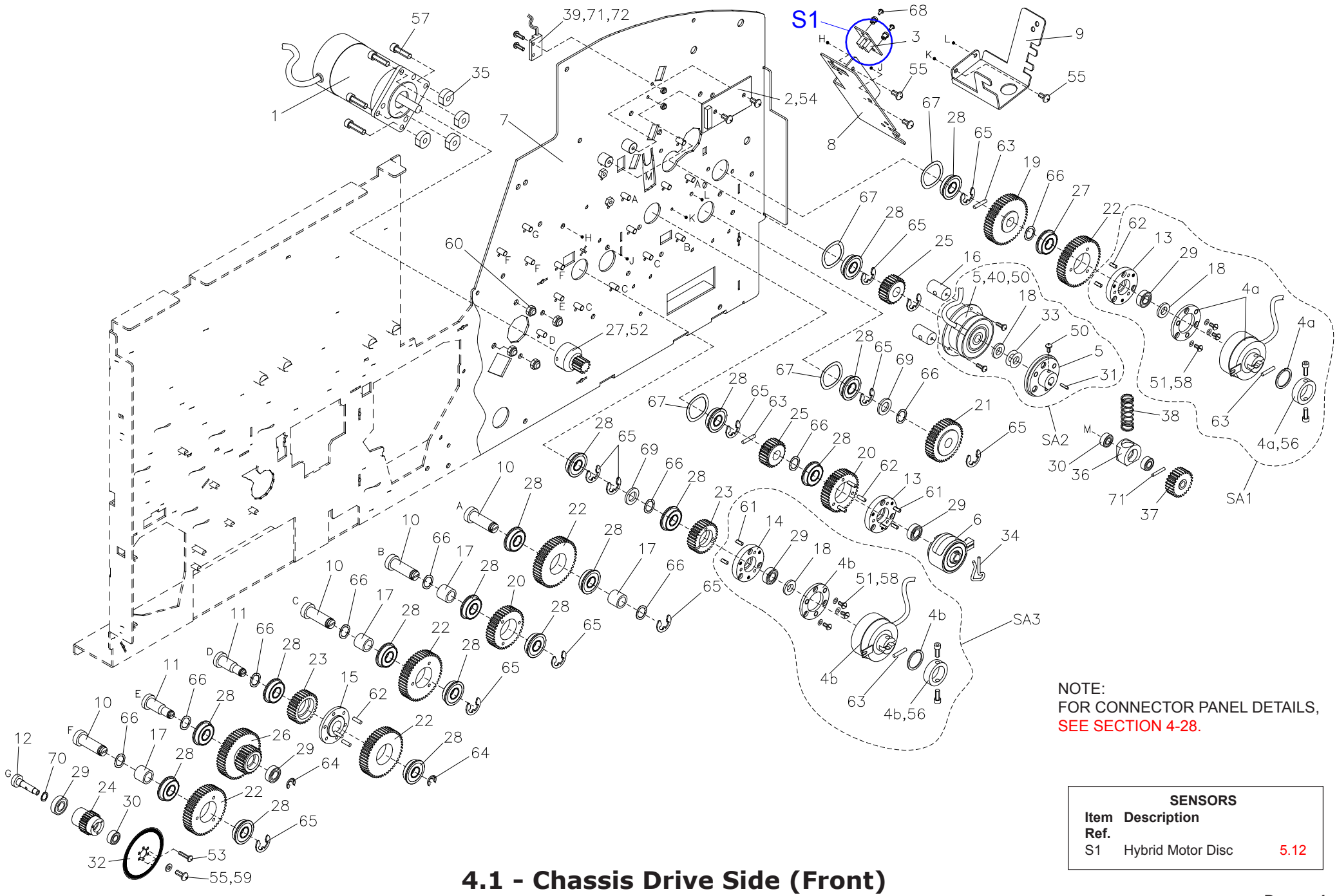
ITEM	P/N (PFE)	P/N (SAP)	DESCRIPTION	QTY	CONS.
23	182-693	9101087Y	OPB715 WIRED SENSOR 2x3W	1	
24	182-8320	9109815Q	LOOM C4 HEAD LINKS	1	
25	182-8330	9109555U	LOOM C4 HEAD RIBBON SET	1	
26	184-2150	9109570K	C4 HEAD PSU	1	
27	180-760	9100745S	PCB SPLIT 3SEN 4SOL H/D	1	
28	182-444	9101014X	LOOM RECEIVER W/A 300 XH	1	
29	182-445	9101015Y	LOOM RECEIVER N/A 300 XH	1	
30	182-8300	9109556V	LOOM C4 ENV FDR LINK SET	1	
31	182-8310	9109571L	OPB715 SENSOR 2x3W 250mm	1	
32	181-1630	9109557W	WIRED 24V BLOWER SM	1	
33	182-337	9100975G	LOOM EMITTER 100 SM	1	
34	182-339	9100977J	LOOM RECEIVER N/A 100 SM	1	
35	182-8340	9109572M	LOOM 4WXH-4WSM 0.1M	1	
36	181-0870	9109558X	MTR W/D 179-056 2WSM	1	
37	182-439	9101009S	LOOM RECEIVER N/A 100 XH	1	
38	182-442	9101012V	LOOM RECEIVER N/A 200 XH	1	
39	182-8460	9109573N	LOOM C4 INTERNAL COMMS	1	
40	D0-0063-A	9109559Y	SOFT RUBBER WHEEL 40 DIA	4	x
41	F5119A	9104497A	BELT 140XL 037 POLYURETH	1.5	x
42	F5120A	9104499C	BELT 130XL 037 POLYURETH	1.5	x
43	C8-0208-A	9109563C	UPPER SEAL ROLLER 48DIA	2	x
44	D0045A	9105523U	ROLLER TRANSPORT NOTCHED	2	x
45	182-8220	9109552R	LOOM 300 2 X 2WXH	1	
46	181-1610	9109568H	SOLENOID W/D 179-3550 XH	2	
47	179-3550	9109569J	SOL SDT2652L628	1	
48	181-070	9100788M	WIRED MTR 179-802 2X2WXH	1	
49	179-110	9108383Y	CLUTCH EC30LL CCW 8mm24V	1	
50	C8135A	9103513A	SEPARATOR ROLLER	2	x
51	G1-0280-A	9109560Z	SEPARATOR SHIELD	1	x
52	181-0850	9108955U	WIRED MTR 179-802 2W SM	1	
53	C8194A	9103545J	SLOTTED FEED WHEEL	2	x

ITEM	P/N (PFE)	P/N (SAP)	DESCRIPTION	QTY	CONS.
54	C8-0209-A	9109578T	ENV FEED ROLLER 10MM DIA	8	x
55	D0-0062-A	9109574P	RUBBER WHEEL 40 DIA	10	x
56	D0051A	9103618K	SEPARATOR PAD 45-55	1	x
57	G0167A	9105600Z	EC30 CLUTCH PIN	2	
58	G6-0220-A	9109561A	GUIDE TAPE UPPER	2	x
59	G6-0221-A	9109576R	GUIDE TAPE LOWER	2	x
60	G6-0223-A	9109562B	FLAP GUIDE SHIM	2	x
61	179-056	9105296H	MTR EMS 30RPM 24V	1	
62	C8098A	9108237W	ROLLER ENVELOPE FEED	2	x
63	D0007A	9103591G	TYRE JOGGLER	4	x
64	F5007A	9104435L	BELT 200XL 037	1	x
65	G5074A	9107157W	BELT CONVEYOR(HAT-5E)	1	x
66	D0021A	9103602T	ROLLER TRANSPORT 30X8	8	
67	E0235A	9103763L	O RING (12.1 X 1.6)	1	
68	G0-0181-A	9109577S	WETTER FELT C4	1	
69	G1117A	9104686X	SPRING HEAVY PRESSURE	2	
70	G0079A	9104579L	CLUTCH PIN	2	
71	G1-0256-A	9109575Q	SPRING LINK	1	
72	C2-1024-A	9109565E	CLUTCH PLATE STANDARD	1	
73	C2-1025-A	9109580V	CLUTCH PLATE 30T	1	
74	C2-1064-A	9109566F	CHAIN ROLLER	8	
75	C5-1066-A	9109581W	LOWER SPROCKET IDLE	1	
76	C8-0206-A	9109564D	LOWER SEAL ROLLER 48 DIA	1	x
77	C8-0207-A	9109579U	LOWER SEAL ROLLER 25DIA	1	x
78	F6-0054-A	9109567G	PAWL CHAIN LINK	4	
79	182-417	9105287Y	REED SW SML 3WSM (UL)	1	
80	182-418	9105294F	REED SW 3WXH (UL)	1	

Section 4

Exploded Views

Section	Description	Page
4.1	Chassis Drive Side (Front)	4-2
4.2	Chassis Drive Side (Rear)	4-5
4.3	Chassis Operator Side	4-8
4.4	Chassis Assembly	4-11
4.5	Shaft Locations	4-14
4.6	Envelope Feeder Assy A2-1064-A	4-16
4.7	Envelope Separator Assy A2-1065-A	4-19
4.8	Envelope Tractor Assy A2-1067-A	4-21
4.9	Envelope Feed Shaft Assy A2-1068-A	4-23
4.10	Envelope Conveyor Assy A2-1066-A	4-25
4.11	Envelope Conveyor Backstop Assy A2-1200-A	4-28
4.12	Collate Pocket Clam Assy A2-1069-A	4-30
4.13	Head Input Conveyor Upper Assy A2-1054-A	4-33
4.14	Head Input Conveyor Lower Assy A2-1055-A	4-36
4.15	Motor Assy A2-1056-A (115V) / A2-1057-A (230V)	4-38
4.16	Sealer Assembly A2-1058-A	4-41
4.17	Split Shaft Sub Assys A2-1059 / 1060 / 1061-A	4-44
4.18	Finger Assembly A2-1062-A	4-46
4.19	Finger Bkt Op Assy A2-1073-A	4-49
4.20	Side Guide Adjust Assy A2-1063-A	4-51
4.21	Pawl Tension Bracket Assy A2-1072-A	4-53
4.22	Wetter Lever Assy A2-1352-A	4-55
4.23	Wetter Beam Assembly	4-57
4.24	Wetter Tank Assy A2-1070-A	4-59
4.25	No Seal Assembly A2-1214-A	4-61
4.26	Head Ribbon Bkt. Assy 184-2260	4-63
4.27	Universal Head PSU 184-2150	4-65
4.28	Mains Input Hardwired 184-2250	4-66
4.29	Head Covers	4-67
4.30	External Float Switch A3-0421-A	4-70
4.31	Lift Beam Assembly A2-1520-A	4-72



SENSORS		
Item Ref.	Description	
S1	Hybrid Motor Disc	5.12

4.1 - Chassis Drive Side (Front)

Item	Part No.		Description	Qty.	Spares
1	181-050	9100779C	MTR W/D 179-093 IN-LINE	1	Y
2	180-759	9100744R	PCB SPLITTER 5SEN 5SOL H/D (No.6)	1	Y
3	180-746	9100741N	PCB ASSY HI-RES SENSOR	1	Y
4a	181-128		CLOSER FORWARD DRIVE CLUTCH	1	N (See Spares Assy 1)
4b	181-128		INSERT PAWL TRACK DRIVE CLUTCH	1	N (See Spares Assy 3)
5	181-129		CLOSER REVERSE DRIVE BRAKE	1	N (See Spares Assy 2)
6	179-110	9108383Y	WETTER OUTPUT DRIVE CLUTCH	1	Y
7	B2-1203-A		HEAD SIDE PLATE DRIVES	1	N
8	B2-1187-A		SENSOR DISC BRACKET	1	N
9	B2-1178-A		CLOSER CLUTCH BRACKET DRIVE	1	N
10	C3-0681-A	9109970B	IDLER POST	4	Y
11	C3-0682-A	9109971C	COMPOUND IDLER POST	1	Y
12	C3-0683-A	9109972D	SENSOR DISC POST	1	Y
13	C2-1024-A	9109565E	CLUTCH PLATE STANDARD	2	Y (See Spares Assy 1)
14	C2-1025-A		CLUTCH PLATE 30T	1	N (See Spares Assy 3)
15	C2-1026-A	9109973E	GEAR CONNECTOR	1	Y
16	C2-1031-A	9109974F	BRAKE POST	2	Y
17	C2-1029-A	9109975G	GEAR SPACER	4	Y
18	C2-1027-A		CLUTCH SPACER	3	N (See Spares Assy 1/2/3)
19	F4-0292-A	9109977J	GEAR 48T 1M 10ID	1	Y
20	F4-0293-A	9109978K	GEAR 40T 1M IDLER	2	Y
21	F4-0294-A	9109979L	GEAR 40T 1M 10ID	1	Y
22	F4-0295-A	9109980M	GEAR 48T IM IDLER	5	Y
23	F4-0296-A	9109981N	GEAR 30T IM CLUTCH	2	Y
24	F4-0297-A	9109982P	GEAR 25T IM IDLER	1	Y
25	F4-0299-A	9109983Q	GEAR 25T 1M 10ID	2	Y
26	F4-0302-A	9109986T	GEAR 25/48T	1	Y
27	F4-0301-A	9109985S	ISSUE B GEAR 16T 1M 8ID	1	Y
28	E1-0138-A	9109987U	BEARING FL 10 x 22 x 6	A/R	Y
29	E1061A	9103826B	BEARING BALL 8 x 16 x 5	A/R	Y
30	E1107A	9105507C	BEARING BALL 6 x 13 x 5	A/R	Y
31	E0-0597-A	9109988V	KEY 2mm x 10	1	Y
32	B7708A	9105533E	SENSOR DISC	1	Y
33	G6168A		CLUTCH SHIM	A/R	N (See Spares Assy 2)
34	G0167A	9105600Z	EC30 CLUTCH PIN	1	Y
35	C2-1033-A		MOTOR SPACER	4	N
36	C2-1028-A	9109991Y	'T' BEARING HOUSING	1	Y
37	F4-0300-A	9109984R	GEAR 25T IM 6ID	1	Y
38	G1-0258-A	9109992Z	SEALER SPRING	1	Y
39	182-494	9101032R	WIRED REED SW (CLOSER COVER)	1	Y
40	C2-1032-A	9110016Z	BRAKE BEARING HOLDER	1	Y

4.1 - Chassis Drive Side (Front)

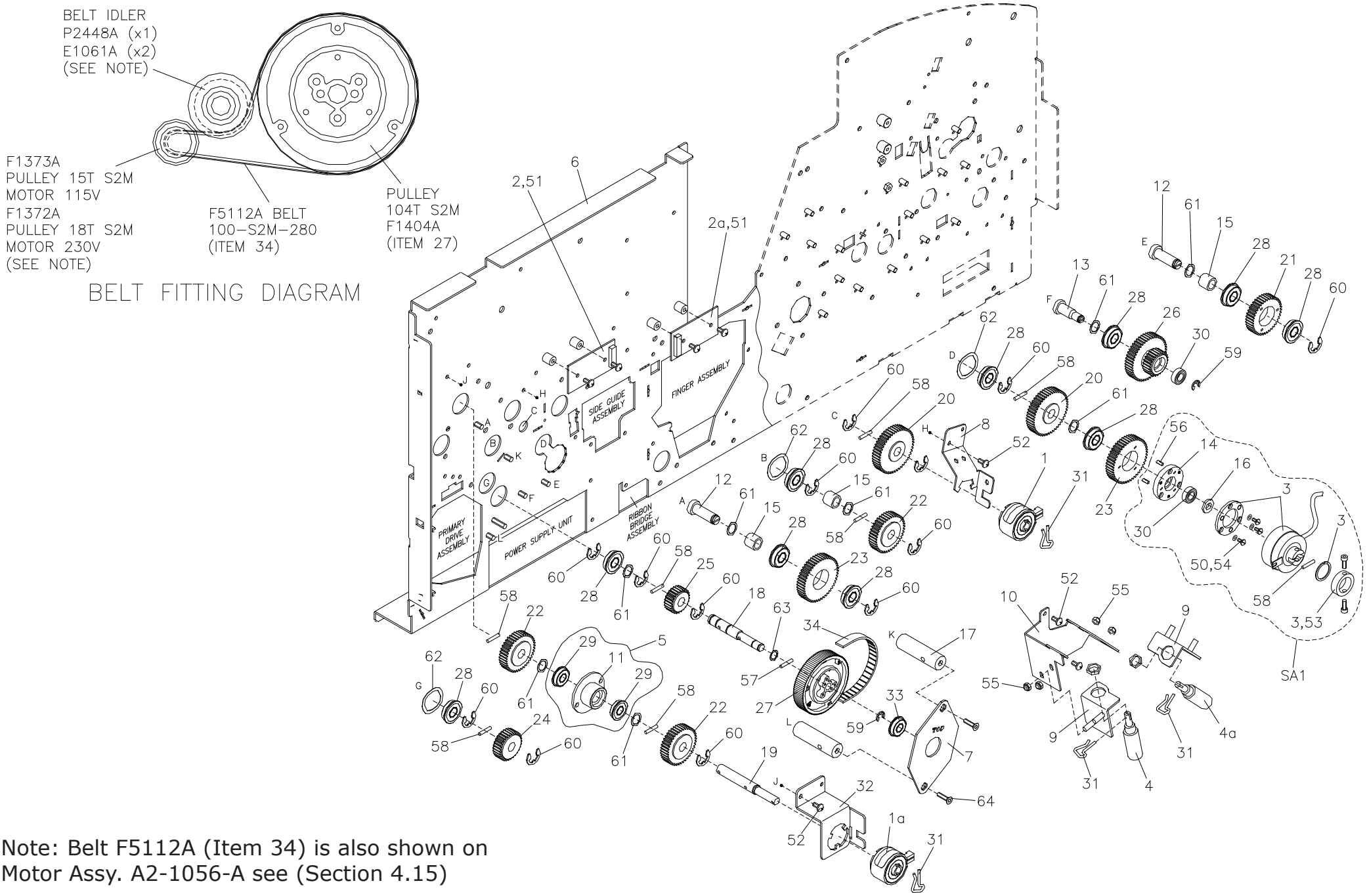
Fixings

Item	Part No.	Description	Qty.	Spares
50	E2-0839-A	SCREW M3 x 6 TORX PAN HD	2	
51	E2651A	SCREW M3 x 6 PAN HD	6	
52	E2684A	SCREW M3 x 14 CAP HD	1	
53	E2782A	SCREW 3mm PLAS-TECH 30	3	
54	E2-0836-A	SCREW M4 x 6 TORX PAN HD	2	
55	E2826A	SCREW M4 x 8 TORX PAN HD	4	
56	E2507A	SCREW M4 x 10 CAP HD	2	
57	E2523A	SCREW M5 x 20 CAP HD	2	
58	E4-0078-A	3mm SCHNORR WASHER	6	
59	E4011A	M4 WASHER	6	SEE FIXING KIT FOR THIS ASSEMBLY A0-0541-A (9110009S) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.
60	E3501A	M5 FULL NUT	2	
61	E5126A	3 DIA x 8 GROOVED PIN	3	
62	E5103A	3 DIA x 10 DOWEL PIN	3	
63	E5086A	3 DIA x 16 DOWEL PIN	6	
64	E5073A	9.5mm 'E' CLIP	3	
65	E5092A	12mm 'E'CLIP	6	
66	E0475A	WAVED WASHER 10.5 ID	3	
67	E0367A	WAVED WASHER 23 ID	4	
68	169-145	PLASTIC RIVET 3.5mm 2.0 - 3.0 GRIP	4	
69	E0425A	WASHER 10.2 x 17 x 2	1	
70	E4033A	WASHER WAVED 8.8 ID	1	
71	E5110A	2.5 DIA x 16 DOWEL PIN	1	
72	E2604A	SCREW M3 x 10 CHEESE HD	2	
73	E3557A	M3 NYLOC NUT	2	

Spares Assemblies

SA1	A0-0553-A	9110050K	LENZE CLUTCH ASSY	A/R
SA2	A0-0554-A	9110051L	CLOSER REVERSE BRAKE ASSY	A/R
SA3	A0-0555-A	9110052M	LENZE CLUTCH ASSY 30T	A/R

4.1 - Chassis Drive Side (Front)



Note: Belt F5112A (Item 34) is also shown on Motor Assy. A2-1056-A see (Section 4.15)

4.2 - Chassis Drive Side (Rear)

Item	Part No.		Description	Qty.	Spares
1	179-109	9108382X	COLLATE ENTRY BRAKE	1	Y
1a	179-109	9108382X	INPUT CONVEYOR BRAKE	1	Y
2	180-759	9100744R	PCB SPLITTER 5SEN 5SOL H/D (No.2)	1	Y
2a	180-759	9100744R	PCB SPLITTER 5SEN 5SOL H/D (No.3)	1	Y
3	181-128		COLL. POCKET ENTRY SLOW CLUTCH	1	N (See Spares Assy 1)
4	181-1600	9109569J	COLL. POCKET BACKSTOP SHORT SOL.	1	Y
4a	181-1600	9109569J	COLL. POCKET BACKSTOP LONG SOL.	1	Y
5	A2-1302-A	9109994B	I/P CONV STUB BRG ASSY	1	Y
6	B2-1203-A		HEAD SIDE PLATE DRIVES	1	N
7	B2-1148-A		PRIMARY DRIVE PLATE	1	N
8	B2-1198-A		CLUTCH LOCATOR SP SH	1	N
9	B2-1260-A		BACKSTOP SOL BRKT DRIVES	2	N
10	B2-1264-A		DUAL SOLENOID BRACKET	1	N
11	C2-1038-A		CONVEYOR BEARING HOUSING	1	N
12	C3-0681-A	9109970B	IDLER POST	2	Y
13	C3-0682-A	9109971C	COMPOUND IDLER POST	1	Y
14	C2-1024-A		CLUTCH PLATE STANDARD	1	N (See Spares Assy 1)
15	C2-1029-A	9109975G	GEAR SPACER	3	Y
16	C2-1027-A		CLUTCH SPACER	1	N (See Spares Assy 1)
17	C4-0515-A		PLATE POST	2	N
18	C4-0517-A	911000IJ	PRIMARY DRIVE SHAFT	1	Y
19	C4-0519-A	9110002K	CONVEYOR DRIVE STUB	1	Y
20	F4-0292-A	9109977J	GEAR 48T 1M 10ID	2	Y
21	F4-0293-A	9109978K	GEAR 40T 1M IDLER	1	Y
22	F4-0294-A	9109979L	GEAR 40T 1M 10ID	3	Y
23	F4-0295-A	9109980M	GEAR 48T IM IDLER	2	Y
24	F4-0298-A	9109993A	GEAR 30T 1M 10ID	1	Y
25	F4-0299-A	9109983Q	GEAR 25T 1M 10ID	1	Y
26	F4-0302-A	9109986T	GEAR 25/48T	1	Y
27	F1404A	9107011U	PULLEY 104T S2M M/DRIVE	1	Y
28	E1-0138-A	9109987U	BEARING FL 10 x 22 x 6	A/R	Y
29	E1-0139-A	9110003L	BEARING FL 10 x 19 x 8	A/R	Y
30	E1061A	9103826B	BEARING BALL 8 x 16 x 5	A/R	Y
31	G0167A	9105600Z	EC30 CLUTCH PIN	1	Y
32	R2874A		BRAKE BRACKET	1	N
33	E1078A	9103835L	BEARING FL 8 x 22 x 7	A/R	Y
34	F5112A	9104493W	BELT 100-S2M-280	1	Y

4.2 - Chassis Drive Side (Rear)

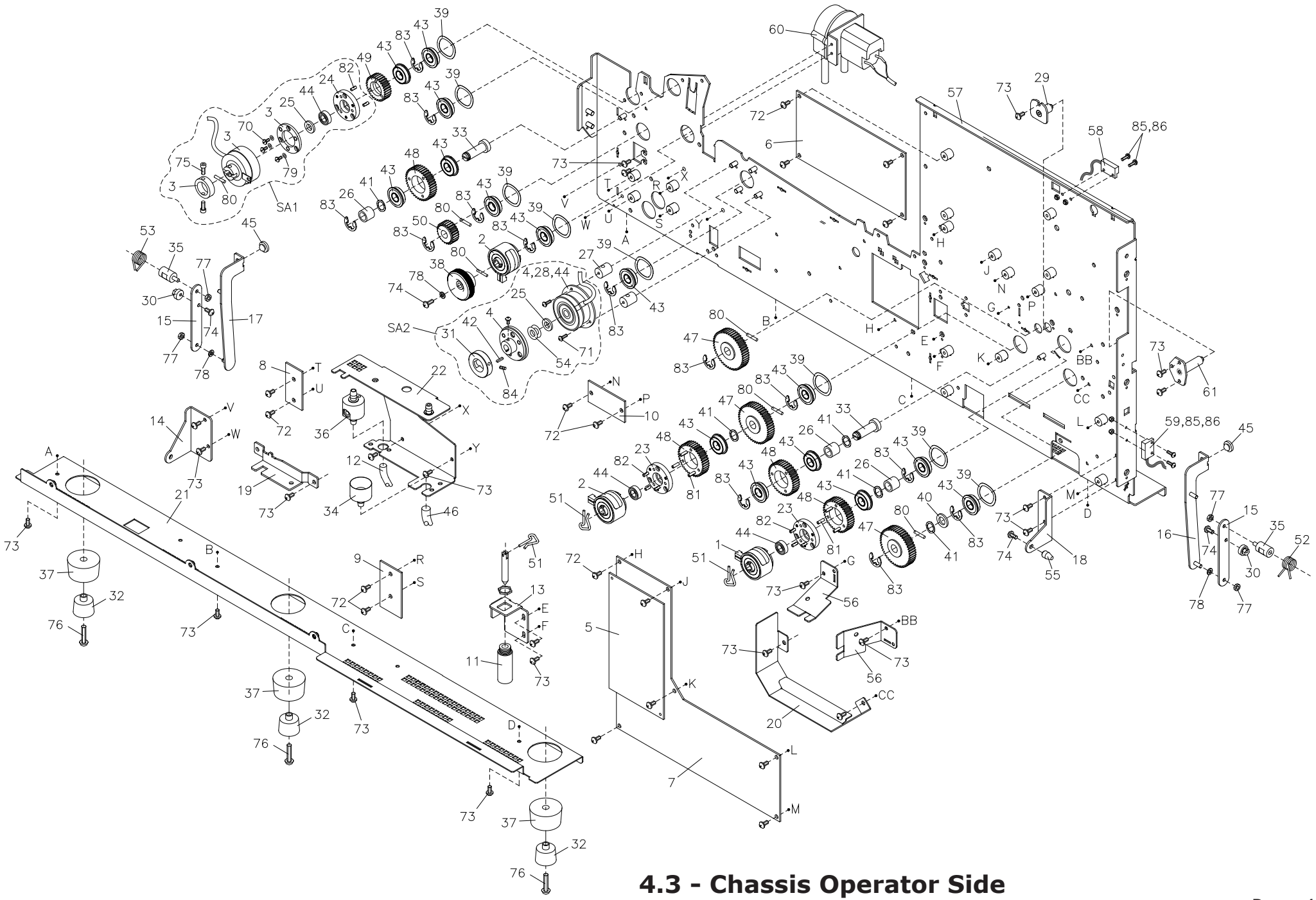
Fixings

Item	Part No.	Description	Qty.	Spares
50	E2651A	SCREW M3 x 6 PAN HD	3	SEE FIXING KIT FOR THIS ASSEMBLY A0-0541-A (9110009S) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.
51	E2-0836-A	SCREW M4 x 6 TORX PAN HD	2	
52	E2826A	SCREW M4 x 8 TORX PAN HD	2	
53	E2507A	SCREW M4 x 10 CAP HD	2	
54	E4-0078-A	3mm SCHNORR WASHER	3	
55	E3505A	M4 NYLOC NUT	4	
56	E5103A	3 DIA x 10 DOWEL PIN	3	
57	E5071A	3 DIA x 14 DOWEL PIN	1	
58	E5086A	3 DIA x 16 DOWEL PIN	4	
59	E5073A	9.5mm 'E' CLIP	2	
60	E5092A	12mm 'E'CLIP	4	
61	E0475A	WAVED WASHER 10.5 ID	2	
62	E0367A	WAVED WASHER 23 ID	4	
63	E4033A	WAVED WASHER 8.8ID	1	
64	E2834A	SCREW M4 x 10 TORX CSK HD	2	

Spares Assemblies

SA1	A0-0553-A	9110050K	LENZE CLUTCH ASSY	A/R

4.2 - Chassis Drive Side (Rear)



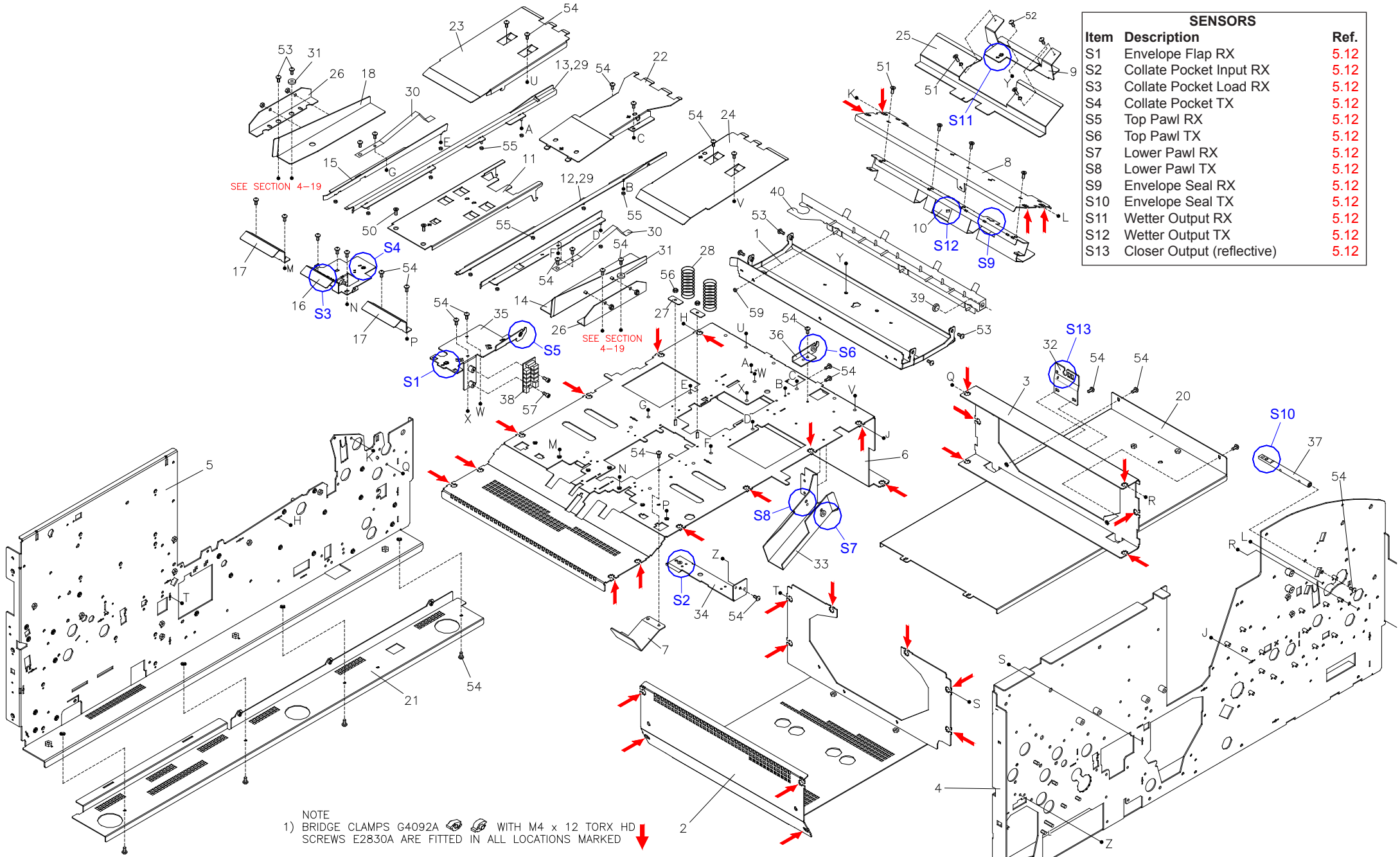
4.3 - Chassis Operator Side

Item	Part No.		Description	Qty.	Spares
1	179-109	9108382X	INPUT CONVEYOR CLUTCH	1	Y
2	179-110	9108383Y	COLLATE ENTRY FAST CLUTCH	2	Y
3	181-128		CLOSER REVERSE DRIVE CLUTCH	1	N (See Spares Assy 1)
4	181-129		INSERT PAWL TRACK DRIVE BRAKE	1	N (See Spares Assy 2)
5	180-720/7	9100723U	PCB ASSY AM4 PROCESSOR	1	Y
6	180-8300	9108643U	PCB C4 EXPANSION	1	Y
7	180-8360	9109914T	PCB ASSY C4 CONTROL MK2	1	Y
8	180-702	9100715L	PCB ENV. WETTER	1	Y
9	180-759	9100744R	PCB SPLITTER (No.1)	1	Y
10	180-8320	9109590F	PCB MAXI DONGLE	1	Y
11	181-1600	9109569J	COLL. POCKET BACKSTOP EXT. LNG. SOL.	1	Y
12	125-432	9100213N	TUBE CLEAR FOR PERI/PMP	A/R	Y
13	B2-1263-A		BACKSTOP SOLINOID BKT. OPERATOR	1	N
14	B2-1291-A		COVER PIVOT BKT. LH	1	N
15	B2-1293-A		SCISSOR STAY 1	2	N
16	B2-1294-A		SCISSOR STAY 2 RH	1	N
17	B2-1295-A		SCISSOR STAY 2 LH	1	N
18	B2-1313-A		COVER PIVOT BKT RH	1	N
19	B2-1853-A		WETTER BRAKE BRACKET	1	N
20	B3-1230-A		GEAR SHIELD	1	N
21	B3-1232-A		FLANGE PLATE	1	N
22	B4-0447-A		WETTER PIPE BKT. ASSEMBLY	1	N
23	C2-1024-A	9109565E	CLUTCH PLATE STANDARD	2	Y
24	C2-1025-A		CLUTCH PLATE 30T	1	N
25	C2-1027-A		CLUTCH SPACER	2	N (See Spares Assy 1 & 2)
26	C2-1029-A	9109975G	GEAR SPACER	3	Y
27	C2-1030-A	9110015Y	BRAKE SPACER 16mm	2	Y
28	C2-1032-A		BRAKE BEARING HOLDER	1	N (See Spares Assy 2)
29	A2-1489-A		CLAM. PIVOT POST OP.	2	N
30	C2-1107-A	9110017A	SPRING ADJUST CAM	2	Y
31	C2-1178-E	9110018B	BRAKE KNOB	1	Y
32	G4-0149-A		FOOT SPIGOT	3	N
33	C3-0681-A	9109970B	IDLER POST	2	Y
34	C3-0688-A	9110019C	WETTER FUNNEL	1	Y
35	C3-0697-A	9110020D	STAY SPACER	2	Y
36	C4-0544-A	9110021E	LL SENSOR BLOCK	1	Y
37	C8078A	9105500V	RUBBER FOOT	3	Y
38	D1077A	9105874K	MOULDED PAPER EJECT KNOB	1	Y
39	E0367A	9103789N	WASHER WAVED 23mm I/D	8	Y
40	E0425A	9110007Q	WASHER 10.2 x 17 x 2	1	Y
41	E0475A	9103795U	WAVED WASHER EPL5	4	Y

Item	Part No.		Description	Qty.	Spares
42	E0-0597-A	9109988V	KEY 2mm SQ X101g RAD ENDS	1	Y
43	E1-0138-A	9109987U	BEARING BALL FL 10x22x6	15	Y
44	E1061A	9103826B	BEARING BALL 8x16x5	4	Y
45	E0291A	9105793A	FOOT PUSH-IN	2	Y
46	E0-0602-A	9110022F	PVC TUBE 8mm I/D 11mm O/D	A/R	Y
47	F4-0292-A	9109977J	GEAR 48T 1M 1OID	3	Y
48	F4-0293-A	9109978K	GEAR 40T 1M IDLER	4	Y
49	F4-0296-A	9109981N	GEAR 30T 1M CLUTCH	1	Y
50	F4-0299-A	9109983Q	GEAR 25T 1M 1OID	1	Y
51	G0167A	9105600Z	CLUTCH PIN	3	Y
52	G1-0278-A	9110023G	SPRING TORSION LH	1	Y
53	G1-0279-A	9110024H	SPRING TORSION RH	1	Y
54	G6168A	9104921S	SHIM CLUTCH	1	Y
55	P2247A	9105998P	MODULE LOCATION SPIGOT	1	Y
56	B2-1155-A		CONVEYOR CLUTCH BRACKET	2	N
57	B2-1204-A		HEAD SIDE PLATE OP	1	N
58	182-417	9105287Y	REED SW SML SWSM	1	Y
59	182-418	9105294F	REED SW 3WHH (UL)	1	Y
60	181-0890		MOTOR PUMP W/D 24V	1	Y
61	A2-1490-A		CONVEYOR PIVOT POST	1	N
Fixings					
70	E2651A		SCREW M3 x 6 PAN HD	3	
71	E2-0839-A		SCREW M3 x 6 TORX PAN HD	2	
72	E2-0836-A		SCREW M4 x 6 TORX PAN HD	8	
73	E2829A		SCREW M4 x 8 TORX PAN HD T/T	8	
74	E2826A		SCREW M4 x 8 TORX PAN HD	4	
75	E2507A		SCREW M4 x 10 CAP HD	2	
76	E2809A		SCREW M5 x 20 POZI PAN HD T/T	3	
77	E3505A		M4 NYLOC NUT	4	
78	E4048A		M4 WASHER FORM 'C'	8	
79	E4-0078-A		M3 SCHNORR WASHER	3	
80	E5086A		3 DIA x 16 DOWEL PIN	4	
81	E5103A		3 DIA x 10 DOWEL PIN	4	
82	E5126A		3 DIA x 8 GROOVED PIN	2	
83	E5092A		12mm 'E' CLIP	6	
84	E2505A		SCREW M4 x 6 SOCKET SET	2	
85	E2559A		SCREW M3 x 10 PAN HD	2	
86	E3557A		M3 NYLOC NUT	2	
Spares Assemblies					
SA1	A0-0555-A	9110052M	LENZE CLUTCH ASSY 30T	A/R	
SA2	A0-0545-A*	9110027L	INSERT PAWL TRACK BRAKE ASSY	A/R	

SEE FIXING KIT FOR THIS ASSEMBLY A0-0542-A (9110025J)
NOTE: FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.

* ASSY. A2-1299-A IS SIMILAR TO SPARES ASSY. SA2 EXCEPT FOR 1TEMS 31,42,54 & 84 WHICH ARE NOT INCLUDED.



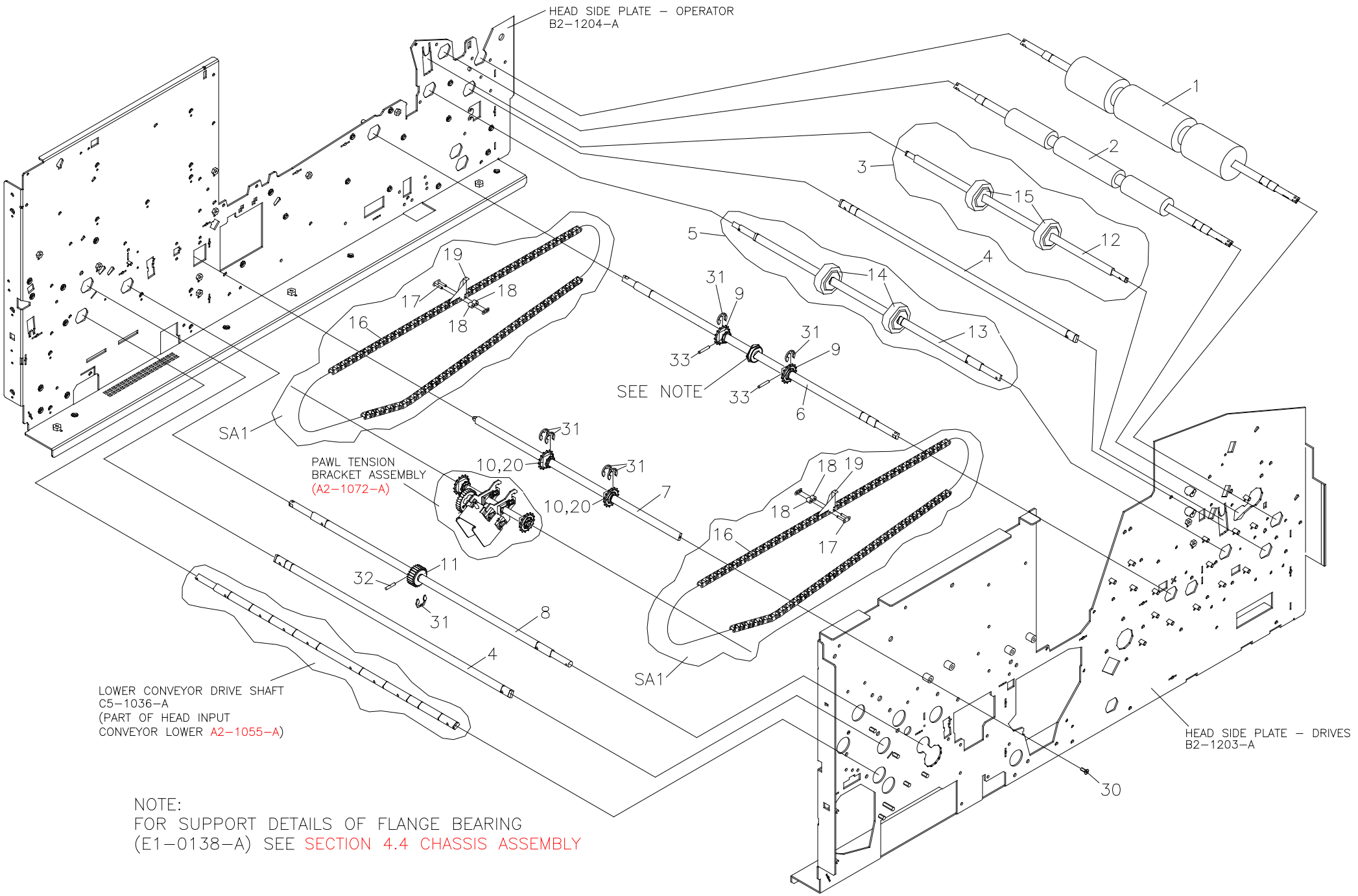
SENSORS

Item	Description	Ref.
S1	Envelope Flap RX	5.12
S2	Collate Pocket Input RX	5.12
S3	Collate Pocket Load RX	5.12
S4	Collate Pocket TX	5.12
S5	Top Pawl RX	5.12
S6	Top Pawl TX	5.12
S7	Lower Pawl RX	5.12
S8	Lower Pawl TX	5.12
S9	Envelope Seal RX	5.12
S10	Envelope Seal TX	5.12
S11	Wetter Output RX	5.12
S12	Wetter Output TX	5.12
S13	Closer Output (reflective)	5.12

4.4 - Chassis Assembly

Item	Part No.		Description	Qty.	Spares
1	B2-1195-A		WETTER BRIDGE	1	N
2	B2-1199-A		INPUT BRIDGE	1	N
3	B2-1200-A		OUTPUT BRIDGE	1	N
4	B2-1203-A		HEAD SIDE PLATE DRIVES	1	N
5	B2-1204-A		HEAD SIDE PLATE OPS	1	N
6	B2-1216-A		MAIN BRIDGE	1	N
7	B2-1242-A		WIRE PROTECTOR BRACKET	1	N
8	B2-1941-A		SEAL PLATE	1	N
9	B2-1734-A		OUTPUT GUIDE BKT	1	N
10	B3-1090-A		WETTER SENSOR BKT	1	N
11	B3-1098-A		PIVOTING COLLATE PANEL	1	N
12	B3-1106-A	9110028M	CHAIN GUIDE INNER DRIVES	1	Y
13	B3-1115-A	9110029N	CHAIN GUIDE INNER OP	1	Y
14	B3-1116-A		CHAIN GUIDE OUTER DRIVES	1	N
15	B3-1117-A		CHAIN GUIDE OUTER OP	1	N
16	B3-1121-A		COLLATE POCKET SENSOR BKT (PART OF 184-2270)	1	N
17	B3-1123-A		SPLIT SHAFT COVER	2	N
18	B3-1124-A		COLLATE POCKET GUIDE OP	1	N
19	B3-1125-A		COLLATE POCKET GUIDE DR	1	N
20	B3-1140-A		HEAD UNDER COVER	1	N
21	B3-1232-A		FLANGE PLATE	1	N
22	B3-1242-A		INSERT PANEL CENTRE	1	N
23	B3-1245-A		INSERTION PANEL OP	1	N
24	B3-1246-A		INSERTION PANEL DRIVES	1	N
25	B3-1346-A		OUTPUT GUIDE	1	N
26	B7696A		SIDE GUIDE BRACKET	2	N
27	B3-1122-A		SPRING RETAINING PLATE	2	N
28	G1-0261-A	9110030P	COLLATE PANEL SPRING	2	Y
29	G6-0218-A	9110031Q	CHAIN TAPE	2	Y
30	B0-0203-A	9110032R	NARROW INSERT GUIDE	2	Y
31	P2190A	9110033S	GUIDE SPIGOT	2	Y
32	B3-1088-A		OUTPUT SENSOR BRACKET	1	N
33	B3-1055-A		CONVEYOR SENSOR BRACKET	1	N
34	B2-1253-A		RIBBON PROTECTOR BRACKET	1	N
35	B2-1256-A		INSERTION SENSOR BRACKET (PART OF 184-2280)	1	N
36	B2-1259-A		PAWL SENSOR BRACKET	1	N
37	C9278A		SENSOR POST 106mm	1	N
38	180-760		PCB SPLITTER 3 SEN 4 SOL H/D (No.4)	1	
39	E0291A	9115793A	FOOT PUSH-IN	1	Y
40	B2-1197-A		WETTER TANK CHANNEL	1	N

Item	Part No.	Description	Qty.	Spares
Fixings				
50	E2-0848-A	SCREW M3 x 6 TORX CSK HD	2	SEE FIXING KIT FOR THIS ASSEMBLY A0-0543-A (9110036V) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.
51	E2-0842-A	SCREW M3 x 8 TORX CSK HD S/ST	6	
52	E2-0836-A	SCREW M4 x 6 TORX PAN HD S/ST	4	
53	E2826A	SCREW M4 x 8 TORX PAN HD	4	
54	E2829A	SCREW M4 x 8 TORX PAN HD T/T	6	
55	E3557A	M3 NYLOC NUT	4	
56	E3505A	M4 NYLOC NUT		


HEAD SIDE PLATE – OPERATOR
B2–1204–A
1
2
3
15
12
4
5
14
13
19
17
18
16
18
31
9
33
SEE NOTE
31
9
33
6
SA1
31
PAWL TENSION
BRACKET ASSEMBLY
(A2–1072–A)
10,20
31
10,20
7
18 19
18
16
17
11
32
31
8
4
SA1
LOWER CONVEYOR DRIVE SHAFT
C5–1036–A
(PART OF HEAD INPUT
CONVEYOR LOWER A2–1055–A)
HEAD SIDE PLATE – DRIVES
B2–1203–A
30
NOTE:
FOR SUPPORT DETAILS OF FLANGE BEARING
(E1–0138–A) SEE SECTION 4.4 CHASSIS ASSEMBLY

Item	Part No.		Description	Qty.	Spares
1	C8-0206-A	9109564D	LOWER SEAL ROLLER 48 DIA	1	y
2	C8-0207-A	9109579U	LOWER SEAL ROLLER 25 DIA	1	y
3	A2-1305-A	9110038X	WET O/P SHAFT UPPER ASSY	1	Y
4	C5-1022-A	9110039Y	IDLER SHAFT	2	Y
5	A2-1306-A	9110040Z	WET O/P SHAFT LOWER ASSY	1	Y
6	C5-1017-A	9110041A	SPROCKET DRIVE SHAFT	1	Y
7	C5-1066-A	9109581W	LOWER SPROCKET IDLE SHAFT	1	Y
8	C5-1020-A	9110042B	SLOW DOWN SHAFT	1	Y
9	F3-0045-C	9110037W	DRIVE SPROCKET 15T	2	Y
10	F3-0046-C	9110090B	IDLE SPROCKET 15T	2	Y
11	F4-0299-A	9109983Q	GEAR 25T 1M 10ID	1	Y
12	C5-1019-A		PRESSURE WHEEL SHAFT	1	N
13	C5-1122-A		OPENER INPUT SHAFT	1	N
14	D0-0062-A		RUBBER WHEEL 40 DIA	2	N
15	D0-0063-A		SOFT RUBBER WHEEL 40 DIA	2	N
16	F6023A	9106577S	CHAIN 1/4” PITCH 83 LINKS	4*	Y
17	F6-0054-A	9109567G	PAWL CHAIN LINK	4*	Y
18	C2-1064-A	9109566F	CHAIN ROLLER	8*	Y
19	B3-1340-A	9110320R	INSERTION PAWL	4*	Y

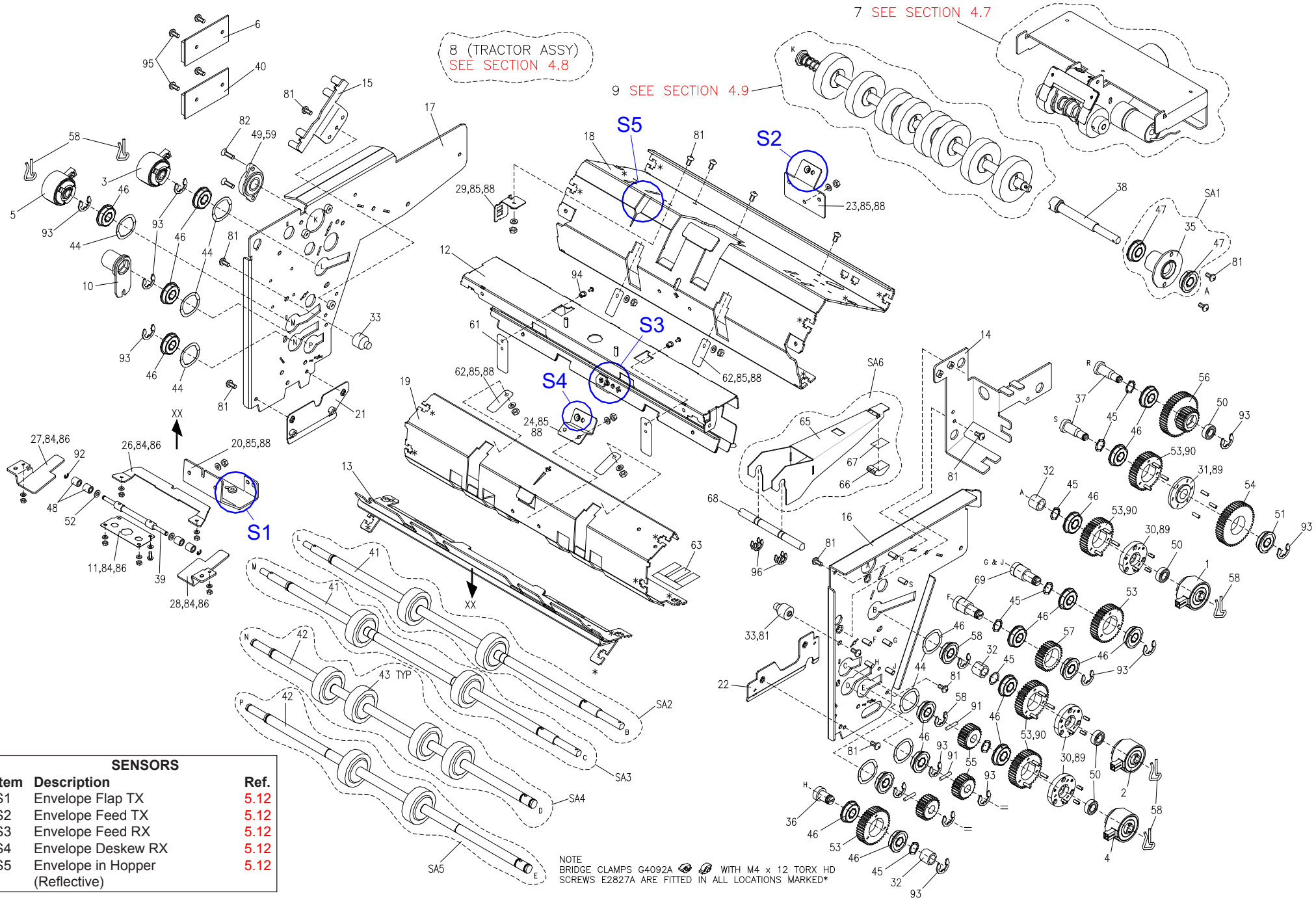
*Per Machine

30	E2834A		SCREW M4 x 10 TORX CSK M/C	1	
31	E5092A		12mm ‘E’ CLIP	A/R	
32	E5086A		DOWEL PIN 3 DIA x 16LG	1	
33	E5098A		DOWEL PIN 3 DIA x 18LG	2	

Spares Assembly

SA1	A0-0688-A	9112526P	INSERTION PAWL ASSEMBLY	A/R	

4.5 - Shaft Locations



SENSORS

Item	Description	Ref.
S1	Envelope Flap TX	5.12
S2	Envelope Feed TX	5.12
S3	Envelope Feed RX	5.12
S4	Envelope Deskew RX	5.12
S5	Envelope in Hopper (Reflective)	5.12

4.6 - C4 Envelope Feeder Assy. - A2-1064-A (9110075L)

Item	Part No.		Description	Qty.	Spares
1	179-109	9108383Y	ENV. PICK UP CLUTCH	1	Y
2	179-109	9108382X	ENV. UPPER DRIVE CLUTCH	1	Y
3	179-109	9108382X	ENV. UPPER DRIVE BRAKE	1	Y
4	179-110	9108382X	ENV. LOWER DRIVE CLUTCH	1	Y
5	179-109	9108382X	ENV. LOWER DRIVE BRAKE	1	Y
6	180-759	9100744R	PCB SPLITTER 5SEN 5SOL H/D (No.E4)	1	Y
7	A2-1065-A	9109900D	C4 ENV SEPARATOR ASSY	1	Y
8	A2-1067-A	9110059U	C4 ENV TRACTOR ASSY	1	Y
9	A2-1068-A	9110060V	C4 ENV FEED SHAFT ASSY	1	Y
10	A2-1281-A	9110062X	FLAP GRIP CLUTCH ASSY	1	Y
11	B0-0205-A	9110063Y	SPRING PLATE 0.25MM	1	Y
12	B1-0937-A		ENV INFEED BRIDGE ASSY	1	N
13	B1-0975-A		FLAP GRIP BRIDGE (ASSY)	1	N
14	B2-2039-A		ENVELOPE CLUTCH BRACKET	1	N
15	B2-1214-A		ENVELOPE BRAKE PLATE	1	N
16	B2-1217-A		ENV FEED SIDE PLATE DR	1	N
17	B2-1218-A		ENV FEED SIDE PLATE OP	1	N
18	B2-1219-A		ENVELOPE FEED BRIDGE UPPER	1	N
19	B2-1224-A		ENV FEED BRIDGE LOWER	1	N
20	B2-1225-A		UPPER ENVELOPE GUIDE	1	N
21	B2-1229-A		MOUNT PLATE OPERATOR	1	N
22	B2-1230-A		MOUNT PLATE DRIVES	1	N
23	B2-1240-A		SENSOR BRACKET	1	N
24	B2-1270-A		SENSOR BRACKET	1	N
25	B2-1296-A		COVER LATCH BRACKET	1	N
26	B2-1603-A		ENVELOPE FLAP PLATE	1	N
27	B2-1630-A		INSERT GUIDE OPERATOR	1	N
28	B2-1631-A		INSERT GUIDE DRIVES	1	N
29	B3-1237-A		REFLECTIVE SENSOR BRACKET	1	N
30	C2-1024-A	9109565E	CLUTCH PLATE STANDARD	3	Y
31	C2-1026-A	9109973E	GEAR CONNECTOR	1	Y
32	C2-1029-A	9109975G	GEAR SPACER	6	Y
33	C2-1056-A		CLAM GUIDE SPIGOT	2	N
34	C2-1057-A		CLAM LATCH SPIGOT	2	N
35	C3-0680-A		BEARING STUB HOUSING	1	N
36	C2-1199-A		IDLER POST SHORT	1	N
37	C3-0682-A	9109971C	COMPOUND IDLER POST	2	Y
38	C4-0516-A	9110064Z	ENV DRIVE STUB	1	Y
39	C4-0522-A		FLAP GRIP ROLLER BAR	1	N
40	180-759	9100744R	PCB SPLITTER 5SEN 5SOL H/D (No.5)	1	Y
41	C5-1122-A		OPENER INPUT SHAFT	2	N
42	C5-1194-A		ENVELOPE STOP SHAFT	2	N
43	D0-0062-A		RUBBER WHEEL 40 DIA FOR 10mm DIA SHAFT	10	N (See Spares Assy 2, 3, 4 & 5)
44	E0367A	9103789N	WASHER WAVED 23mm ID EMOEPL20	8	Y

Item	Part No.		Description	Qty.	Spares
45	E0475A	9103795U	WAVED WASHER EPL5	9	Y
46	E1-0138-A	9109987U	BEARING BALL FL 10x22x6	21	Y
47	E1-0139-A		BEARING BALL FL 10x19x5	2	N (See Spares Assy 1)
48	E1-0140-A	9110065A	BEARING NEEDLE 4 IDx8x8	4	Y
49	E1054A	9103819U	BEARING BALL 12x28x8mm	1	Y
50	E1061A	9103826B	BEARING BALL 8x16x5mm	4	Y
51	E1078A	9103835L	BEARING FL 8x22x7mm	1	Y
52	E4-0074-A	9110066B	WASHER 4.06x7.24x0.81	4	Y
53	F4-0293-A	9109978K	GEAR 40T 1M IDLER	7	Y
54	F4-0295-A	9109980M	GEAR 48T 1M IDLER	1	Y
55	F4-0299-A	9109983Q	GEAR 25T 1M 10ID	3	Y
56	F4-0302-A	9109986T	GEAR 25/48T 1M	1	Y
57	F4-0307-A	9110067C	GEAR 30T 1M IDLER	1	Y
58	G0167A	91056000Z	EC30 CLUTCH PIN	5	Y
59	G4051A		BEARING HOUSING 12mm MOD	1	N
60	G4092A		BRIDGE CLAMP	18	N
61	G6-0220-A	9109561A	GUIDE TAPE UPPER	2	Y
62	G6-0221-A	9109576R	GUIDE TAPE LOWER	2	Y
63	G6-0223-A	9109562B	FLAP GUIDE SHIM	2	Y
64	P2001A		GUIDE SPIGOT	2	N
65	B3-1247-A		RESTRICTOR ARM	1	N (See Spares Assy 6)
66	D0051A		SEPARATOR PAD 45-55	1	N (See Spares Assy 6)
67	E0448A		3M VHB TAPE 9469 x 14mm	A/R	N (See Spares Assy 6)
68	C5-1051-A		CHASSIS TIE-BAR	1	N
69	C3-0758-A		IDLER POST SOLO LONG	3	N

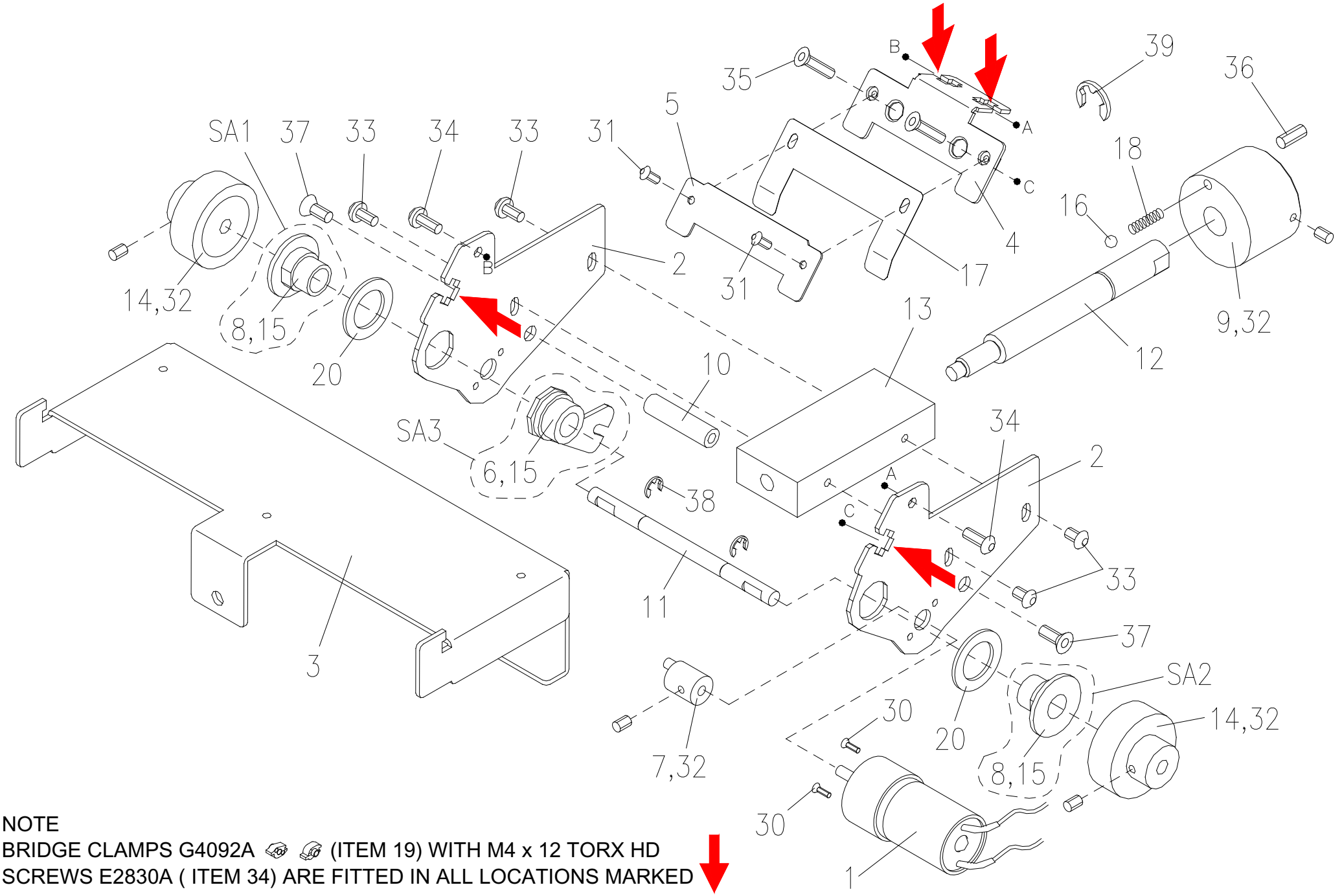
Fixings

80	E2-0839-A		SCREW M3 x 6 TORX PAN HD	2
81	E2826A		SCREW M4 x 8 TORX PAN HD	8
82	E2834A		SCREW M4 x 10 TORX CSK HD	2
83	E2827A		SCREW M4 x 12 TORX PAN HD	8
84	E4009A		M3 WASHER	6
85	E4011A		M4 WASHER	8
86	E3557A		M3 NYLOC NUT	4
87	E3505A		M4 NYLOC NUT	4
88	E3502A		M4 FULL NUT	4
89	E5126A		3 DIA x 8 GROOVED PIN	6
90	E5103A		3 DIA x 10 DOWEL PIN	6
91	E5086A		3 DIA x 16 DOWEL PIN	6
92	E5081A		4.5mm 'E' CLIP	4
93	E5092A		12mm 'E'CLIP	4
94	169-126		PLASTIC RIVET 3.5 DIA 1.2 - 2.1mm GRIP	4
95	E2-0836-A		SCREW M4 x 6 TORX PAN HD	2
96	E5073A		9.5mm 'E' CLIP	4

SEE FIXING KIT FOR THIS ASSEMBLY
A0-0546-A (9110043C)
NOTE: FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.

Spares Assemblies

SA1	ENV P/UP STUB BRG ASSY (9110070F)	A2-1303-A QTY. A/R
SA2	ENV FEED I/P SHAFT ASSY (9110071G)	A2-1307-A QTY. A/R
SA3	ENV OPENER I/P SHAFT ASSY (9110072H)	A2-1308-A QTY. A/R
SA4	ENV OPENER O/P SHAFT ASSY (9110073J)	A2-1309-A QTY. A/R
SA5	ENV FEED O/P SHAFT ASSY (9110074K)	A2-1310-A QTY. A/R
SA6	RESTRICTOR ARM ASSY (9110322T)	A2-1380-A QTY. A/R



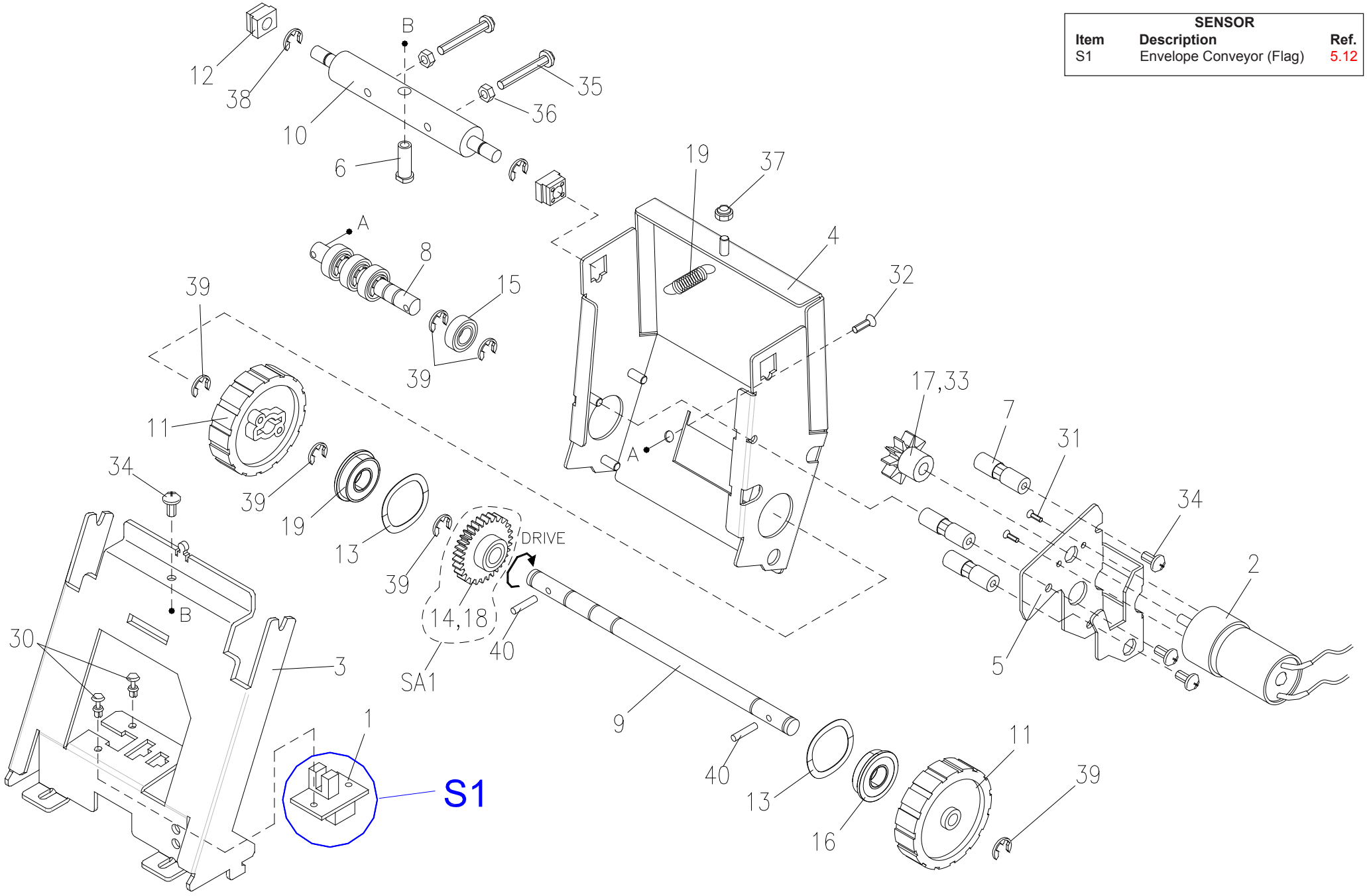
NOTE
BRIDGE CLAMPS G4092A (ITEM 19) WITH M4 x 12 TORX HD
SCREWS E2830A (ITEM 34) ARE FITTED IN ALL LOCATIONS MARKED

4.7 - C4 Envelope Separator Assy. - A2-1065-A (9109900D)

Item	Part No.		Description	Qty.	Spares
1	181-0850	9108955U	WIRED MTR 179-802 2W SM	1	Y
2	B2-1465-A		SEPARATOR SIDE PLATE	2	N
3	B2-1466-A		SEPARATOR MOUNT BRACKET	1	N
4	B2-1792-A		SEPARATOR BRIDGE	1	N
5	B3-1362-A		SHIELD PROTECTOR PLATE	1	N
6	B4-0444-A	9109905J	SEPARATOR ACTUATOR ASSY	1	Y
7	C2755A	9102934X	DRIVE ECCENTRIC	1	Y
8	C2887A		CLUTCH HOLDER	2	N
9	C3-0711-E		SEPARATOR ADJUSTOR KNOB	1	N
10	C3420A		INNER TIE BAR	1	N
11	C4269A		SEPARATOR SHAFT	1	N
12	C5-1120-A		SEPARATOR ADJUSTOR SHAFT	1	N
13	C6-0427-A		SEPARATOR ADJUSTOR BLOCK	1	N
14	C8135A	9103513A	SEPARATOR ROLLER	2	Y
15	E1068A	9103828D	ROLLER CLUTCH 6x10x12mm	3	Y
16	E0062A	9103705A	STEEL BALL 4mm DIA	1	Y
17	G1-0280-A	9109560Z	SEPARATOR SHIELD	1	Y
18	G1046A	9104636V	SPRING INDEX	1	Y
19	G4092A		BRIDGE CLAMP	4	N
20	G6150A	9104817N	WASHER	2	Y
Fixings					
30	E2774A		SCREW M2 x 6 POZI CSK HD	2	
31	E2-0839-A		SCREW M3 x 6 TORX PAN HD	2	
32	E2505A		SCREW M4 x 6 SKT SET	2	
33	E2826A		SCREW M4 x 8 TORX PAN HD	4	
34	E2830A		SCREW M4 x 12 TORX PAN HD	2	
35	E2-0838-A		SCREW M4 x 12 TORX CSK HD	2	
36	E2517A		SCREW M5 x 10 SKT SET	1	
37	E2-0874-A		SCREW M5 x 10 TORX C'SK HD	2	
38	E5079A		6mm 'E' CLIP	1	
39	E5092A		12mm 'E' CLIP	1	
Spares Assemblies					
SA1	A0-0548-A	9110045E	CLUTCH LOCATOR OP ASSY	A/R	
SA2	A0-0549-A	91100446	CLUTCH LOCATOR DR ASSY	A/R	
SA3	A0-0547-A	9110044D	SEP ACTUATOR ASSY	A/R	

SEE FIXING KIT FOR THIS ASSEMBLY
A0-0550-A 9110047G
NOTE: FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.

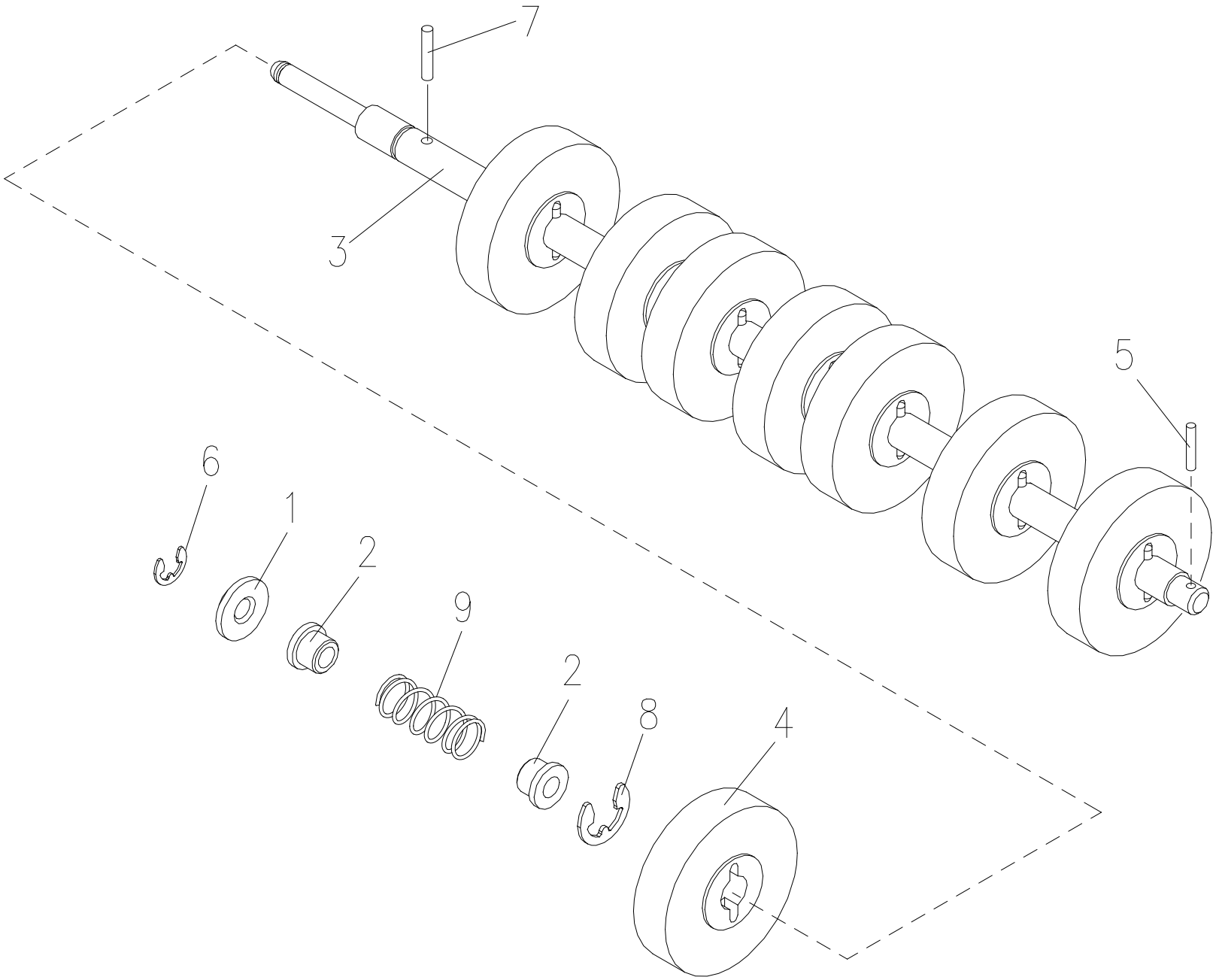
4.7 - C4 Envelope Separator Assy. - A2-1065-A (9109900D)



4.8 - C4 Envelope Tractor Assy. - A2-1067-A (9110059U)

Item	Part No.		Description	Qty.	Spares
1	180-776	9100753	PCB SENSOR FLAG	1	Y
2	181-0810	9110054P	MOTOR WIRED 179-802 0.2M SM	1	Y
3	B2-1473-A		TRACTOR MOUNT BRACKET	1	N
4	B2-1548-A		TRACTOR OVERGUIDE	1	N
5	B3-1241-A		TRACTOR MOUNT PLATE	1	N
6	C2-1136-A	9110055Q	TRACTOR PIVOT POST	1	Y
7	C3-0720-A		TRACTOR MOTOR STAND-OFF	3	N
8	C4-0565-A		TRACTOR BEARING SHAFT	1	N
9	C5-1070-A		TRACTOR FEED SHAFT	1	N
10	C5-1146-A		TRACTOR PIVOT SHAFT	1	N
11	C8194A	9103545J	SLOTTED FEED WHEEL	2	Y
12	D1076A	9105521S	T BEARING 6mm 10SQ	2	Y
13	E0367A	9103789N	WASHER WAVED 23mm ID	2	Y
14	E1030A		ROLLER CLUTCH 8x12x12mm	1	N (See Spares Assy 1)
15	E1061A	9103826B	BEARING BALL 8x16x5mm	4	Y
16	E1078A	9103835L	BEARING FL 8x22x7mm	2	Y
17	F4-0311-A	9110056R	16T TRACTOR DRIVE GEAR	1	Y
18	F4-0312-A		32T GEAR x 12mm BORE	1	N (See Spares Assy 1)
19	G1029A	9110058T	SPRING D.D.	1	Y
Fixings					
30	169-145		RIVET 3.5mm 2.0-3.0 GRIP	2	
31	E2760A		SCREW M2 x 5 POZI CSK HD	2	
32	E2-0848-A		SCREW M3 x 6 TORX CSK HD	2	
33	E2518A		SCREW M4 x 4 SKT SET	1	
34	E2826A		SCREW M4 x 8 TORX PAN HD	2	SEE FIXING KIT FOR THIS ASSEMBLY
35	E2-0857-A		SCREW M4 x 25 TORX PAN HD	2	A0-0552-A 9110094J
36	E3502A		M4 FULL NUT	2	**NOTE:** FIXINGS ARE NOT AVAILABLE
37	E3505A		M4 NYLOC NUT	1	INDIVIDUALLY.
38	E5003A		7mm 'E' CLIP	2	
39	E5073A		9.5mm 'E' CLIP	4	
40	E5071A		PIN DOWEL 3 DIA x 14	1	
Spares Assemblies					
SA1	A0-0551-A	9110048H	32T GEAR/ROLLER CLUTCH ASSY	A/R	

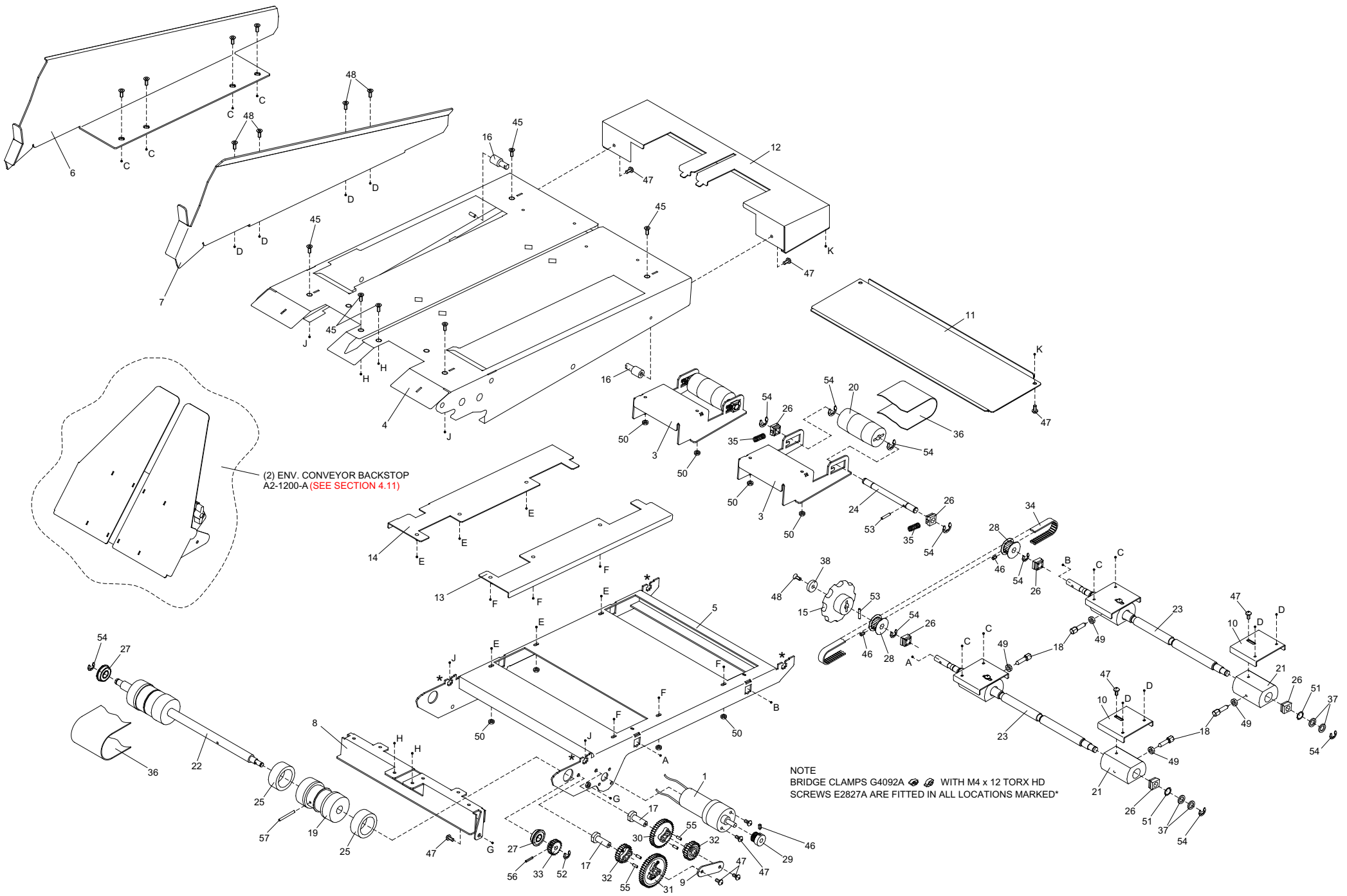
4.8 - C4 Envelope Tractor Assy. - A2-1067-A (9110059U)



4.9 - C4 Envelope Feed Shaft Assy. - A2-1068-A (9110060V)

Item	Part No.		Description	Qty.	Spares
1	C2653A	9102919G	ENVELOPE FEED BEARING	1	Y
2	C2655A	9102920H	BEARING NYLON	2	Y
3	C5-1058-A		ENVELOPE FEED SHAFT	1	N
4	C8-0209-A		ENV FEED ROLLER 10mm DIA	8	N
5	E5078A		PIN GROOVED S8 2.5x14	1	N
6	E5079A	9104139C	CIRCLIP 'E' TYPE 6mm	1	Y
7	E5086A		PIN DOWEL 3 DIA x 16(m6) SS	8	N
8	E5092A		CIRCLIP 'E' TYPE 12mm	8	N
9	G1139A	9104698K	SPRING RELEASE	1	Y

4.9 - C4 Envelope Feed Shaft Assy. - A2-1068-A (9110060V)

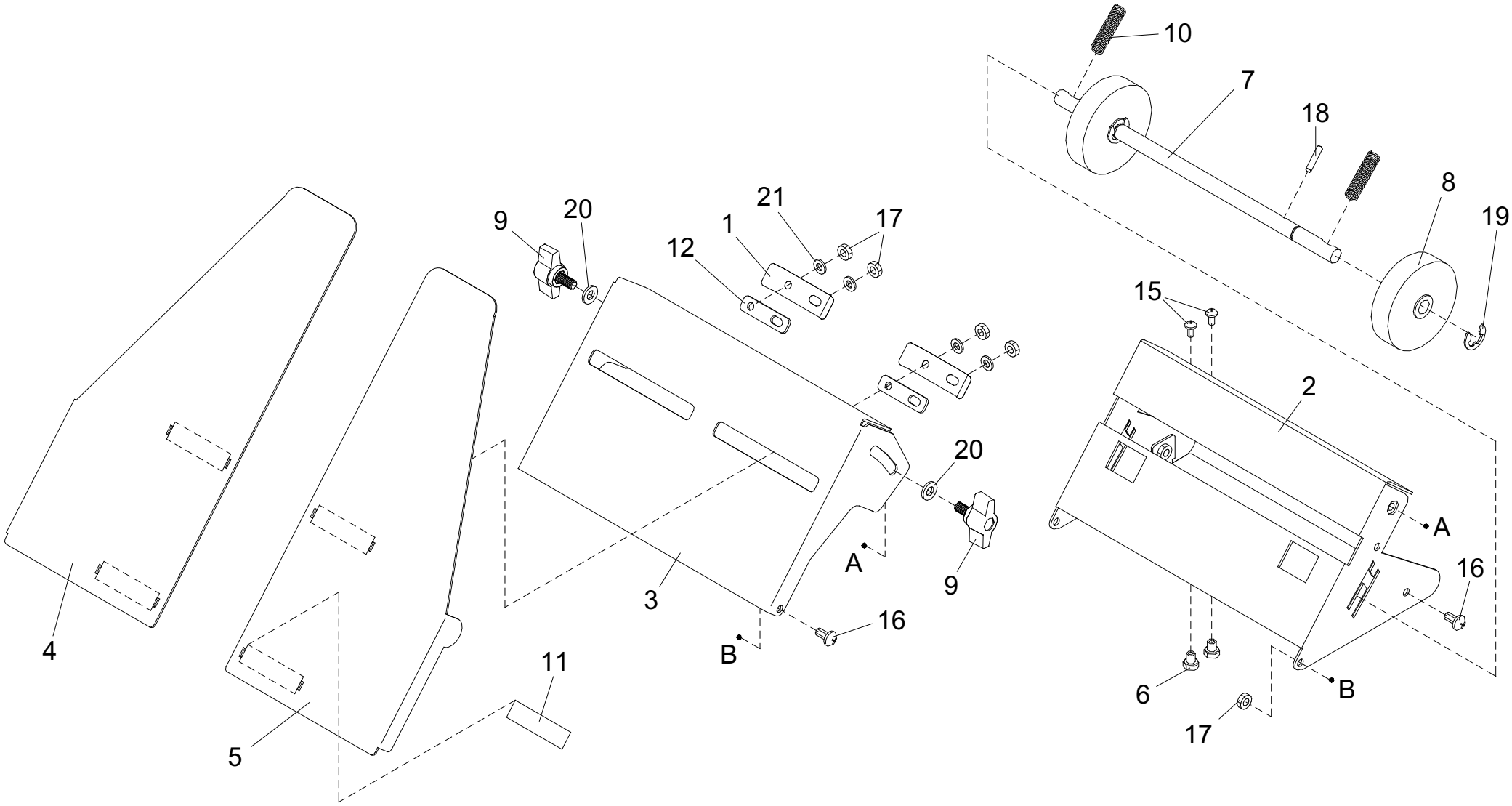

(2) ENV. CONVEYOR BACKSTOP
A2-1200-A (SEE SECTION 4.11)
NOTE
BRIDGE CLAMPS G4092A WITH M4 x 12 TORX HD
SCREWS E2827A ARE FITTED IN ALL LOCATIONS MARKED*

4.10 - C4 Envelope Conveyor Assy. - A2-1066-A (9110088Z)

Item	Part No.		Description	Qty.	Spares
1	181-0870	9109558X	MTR W/D 179-056 2WSM (H1)J13	1	Y
2	A2-1200-A	9110080R	ENV CONVEYOR BACKSTOP	1	Y
3	B2-1209-A		BELT TENSIONER BRACKET	2	N
4	B2-1212-A		ENV CONVEYOR CHASSIS	1	N
5	B2-1220-A		CONVEYOR BRIDGE	1	N
6	B2-1221-A		SIDE GUIDE OPERATOR	1	N
7	B2-1222-A		SIDE GUIDE DRIVES	1	N
8	B2-1469-A		CONV STRENGTHENING BKT	1	N
9	B2-1470-A		GEAR SUPPORT PLATE	1	N
10	B2-1682-A		SIDE GUIDE LOCATOR BRACKET	4	N
11	B3-1236-S		CONVEYOR UNDER COVER	1	N
12	B3-1238-S		CONVEYOR END CAP	1	N
13	B3-1322-S		CONVEYOR INFILL PLATE OP	1	N
14	B3-1323-S		CONVEYOR INFILL PLATE DR	1	N
15	C2-1053-V	9110081S	SIDE GUIDE ADJUSTOR KNOB	1	Y
16	C3-0689-A	9110082T	SEALER LATCH POST	2	Y
17	C3-0710-A	9110083U	CONVEYOR GEAR POST	2	Y
18	C3-0741-A		SCROLL SCREW	4	N
19	C4-0534-A	9110084V	ENV CONV DRIVE ROLLER	2	Y
20	C4-0535-A	9110085W	ENV CONV IDLER ROLLER	2	Y
21	C4-0563-A		SIDE GUIDE SLIDER	4	N
22	C5-1053-A		CONVEYOR DRIVE SHAFT	1	N
23	C5-1055-A		SIDE GUIDE ADJUST SHAFT	2	N
24	C5-1056-A		CONVEYOR TENSIONER SHAFT	2	N
25	D0007A	9103591G	TYRE JOGGLER	4	Y
26	D1040A	9103641J	T BEARING 8MM 12SQ	8	Y
27	E1102A	9103841S	BEARING FL 8X19X6MM F698ZZ	2	Y
28	F1-0445-A	9109822X	PULLEY 12 XL x 8mm	2	Y
29	F4-0306-A	9110086X	GEAR 12 TOOTH CONVEYOR	1	Y
30	F4150A	9104398X	GEAR 40Tx8mm 1.0M	1	Y
31	F4151A	9104399Y	GEAR 48Tx8mm 1.0M	1	Y
32	F4152A	9104400Z	GEAR 25Tx8mm 1.0M	2	Y
33	F4278A	9106542F	GEAR 20T 1M x 6mm	1	Y
34	F5007A	9104435L	BELT 200XL 037	1	Y
35	G1117A	9104686X	SPRING HEAVY PRESSURE	4	Y
36	G5074A	9107152W	BELT CONVEYOR(HAT-5E) 1165x60	1	Y
37	G6002A		WASHER	4	N
38	P2520A		M4 LOCK CAP	1	N

Item	Part No.	Description	Qty.	Spares
Fixings				
45	E2-0838-A	SCREW M4X12MM TORX CSK TAPTITE	2	
46	E2505A	SCREW M4 SOCKET SETx6 KCP	1	
47	E2826A	SCREW M4x8 TORX PAN HD	6	
48	E2834A	SCREW M4x10 TORX CSUNK HD	3	
49	E3501A	NUT M5 FULL BZP	2	
50	E3505A	NUT M4 NYLOC DIN 985 BZP	4	
51	E4033A	WASHER WAVED 8.89ID12.5OD0.18THICK	2	SEE FIXING KIT FOR THIS ASSEMBLY A0-0558-A (9110087Y) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
52	E5003A	CIRCLIP 7mm	1	
53	E5071A	PIN DOWEL 3 DIA x 14(m6)	1	
54	E5073A	CIRCLIP 9.5mm 'E' TYPE	3	
55	E5074A	PIN DOWEL 3 DIA x 8(m6)	2	
56	E5123A	PIN DOWEL 2.5 DIA x 10 m6	1	
57	E5111A	PIN DOWEL 3 DIA x 30 m6	1	

4.10 - C4 Envelope Conveyor Assy. - A2-1066-A (9110088Z)



4.11 - C4 Envelope Conveyor Backstop. - A2-1200-A (9110080R)

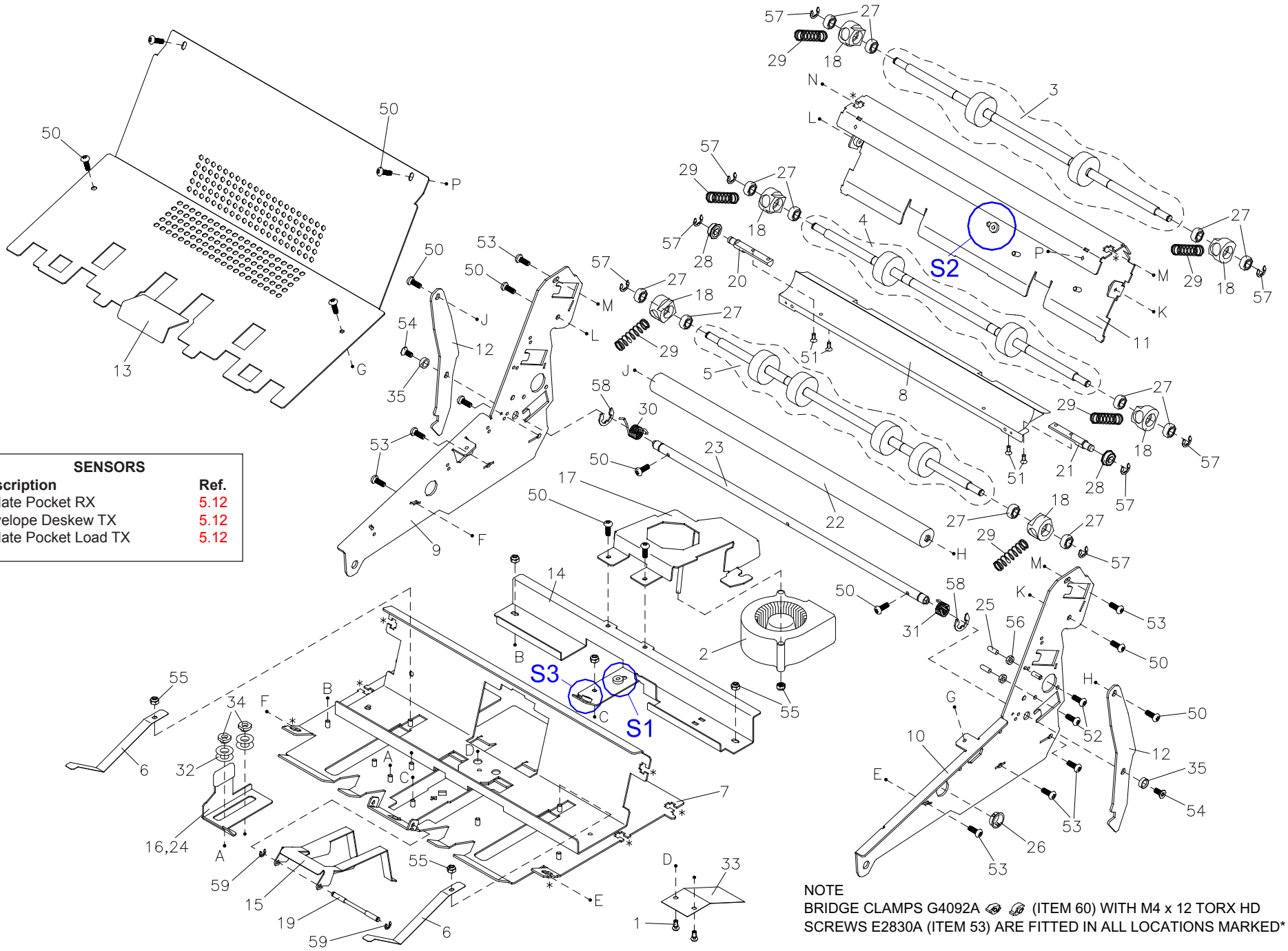
Item	Part No.		Description	Qty.	Spares
1	B0145A	9105556D	SPRING GUIDE DAMPER	2	Y
2	B3-1281-A	9110077N	ENVELOPE BACKSTOP	1	Y
3	B3-1317-A		BACKSTOP SUPPORT BRACKET	1	N
4	B3-1318-S		ENVELOPE BACK REST (OP)	1	N
5	B3-1319-S		ENVELOPE BACK REST (DR)	1	N
6	C2-1155-A	9110078P	BACKSTOP SLIDER SPIGOT	4	Y
7	C5-1052-A		BACKSTOP SHAFT	1	N
8	C8098A	9103501N	ROLLER ENVELOPE FEED	2	Y
9	E0330A	9105861W	HANDWHEEL M5 MALE	2	Y
10	G1166A	9105852M	RETAINING SPRING	2	Y
11	G6176A	9105814X	SIDE GUIDE TAPE	4	Y
12	R2392C	9105896H	SPACER PLATE	2	Y

Fixings

15	E2-0839-A		SCREW M3x6MM TORX PAN HD	1
16	E2826A		SCREW M4x8 TORX PAN HD	2
17	E3502A		NUT M4 FULL BZP	2
18	E5071A		PIN DOWEL 3 DIA x 14(M6)	1
19	E5073A		CIRCLIP 9.5MM 'E' TYPE	2
20	E4012A		M5 WASHER	2
21	E4011A		M4 WASHER	2

SEE FIXING KIT FOR THIS ASSEMBLY A0-0557-A (9110079Q)
NOTE: FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.

4.11 - C4 Envelope Conveyor Backstop. - A2-1200-A (9110080R)



SENSORS

Item	Description	Ref.
S1	Collate Pocket RX	5.12
S2	Envelope Deskew TX	5.12
S3	Collate Pocket Load TX	5.12

NOTE
BRIDGE CLAMPS G4092A (ITEM 60) WITH M4 x 12 TORX HD SCREWS E2830A (ITEM 53) ARE FITTED IN ALL LOCATIONS MARKED*

4.12 - C4 Collate Pocket Clam Assy. - A2-1069-A (9110098K)

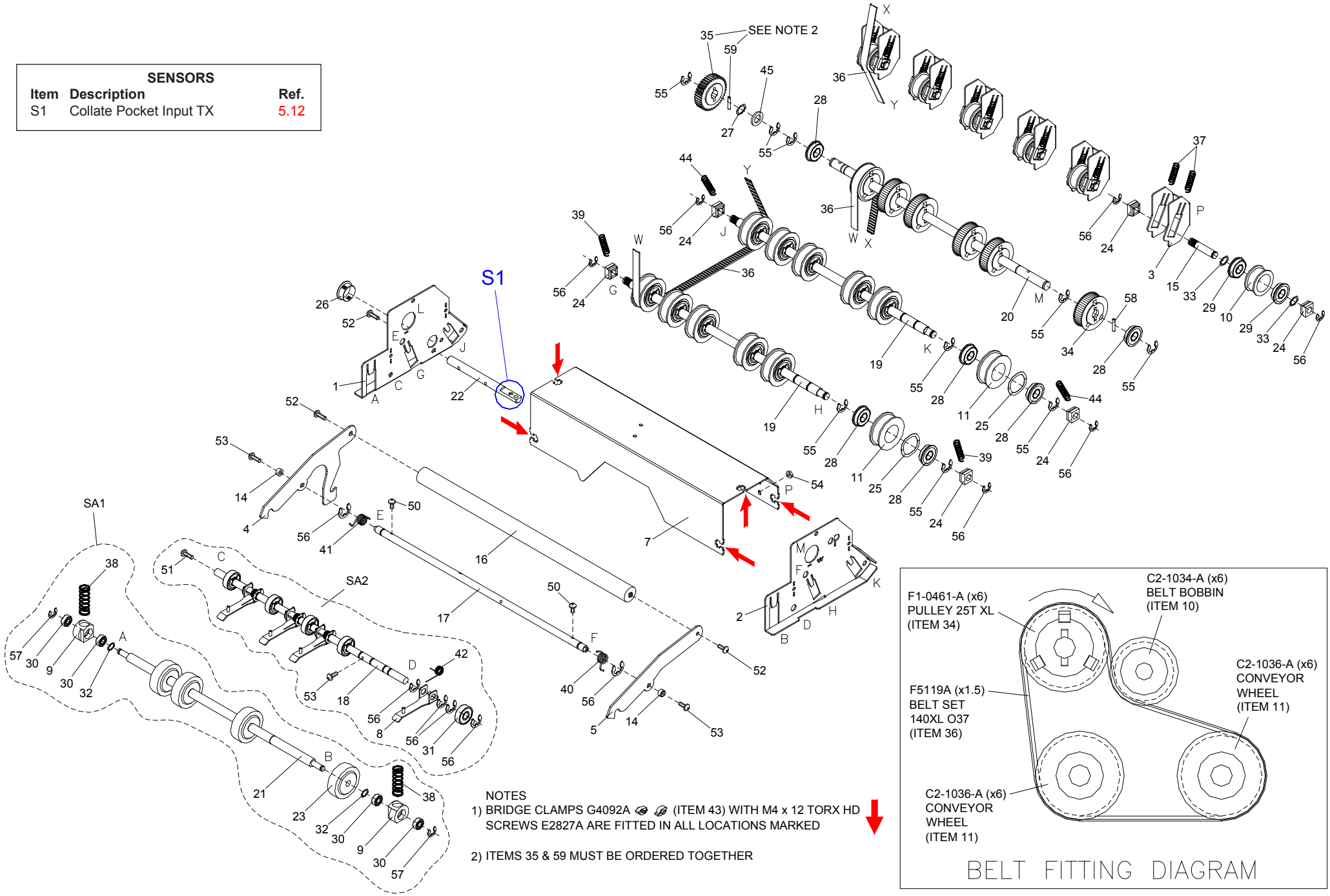
Item	Part No.		Description	Qty.	Spares
1	169-128	9108602B	RIVET 4mm 3.5-4.5mm GRIP	2	Y
2	181-1630	9109557W	WIRED 24V BLOWER SM	1	Y
3	A2-1311-A	9110091C	INPUT SHAFT ASSY CLAM	1	Y
4	A2-1312-A	9110092D	OPENER I/P SHAFT ASSY CL	1	Y
5	A2-1313-A	9110093E	OPENER O/P SHAFT ASSY CL	1	Y
6	B0-0206-A	9110094F	COLLATE OVERGUIDE SPRING	2	Y
7	B1-0936-A		COLLATE CLAM ROOF ASSY	1	N
8	B1-0982-A	9110095G	OPENER (ASSEMBLY) C4	1	Y
9	B2-1205-A		COLLATE CLAM SIDE PL OP	1	N
10	B2-1206-A		COLLATE CLAM SIDE PL DR	1	N
11	B2-1215-A		COLLATE CLAM BRIDGE UPR	1	N
12	B2-1472-A		LATCH PLATE	2	N
13	B3-1093-F		COLLATE CLAM COVER	1	N
14	B3-1100-A		COLLATE SENSOR BRACKET	1	N
15	B3-1103-A	9110096H	COLLATE CENTRAL OVERGUIDE	1	Y
16	B3-1329-A		GUIDE LATCH BRACKET	1	N
17	B3-1330-A		BLOWER MOUNT BRACKET	1	N
18	C2-1028-A	9109991Y	T BEARING HOUSING	6	Y
19	C4-0527-A		OVERGUIDE PIVOT SHAFT	1	N
20	C4-0568-A		OPENER PIVOT OPERATOR C4	1	N
21	C4-0569-A		OPENER PIVOT DRIVES C4	1	N
22	C5-1046-V		COLLATE CLAM HANDLE	1	N
23	C5-1060-A		COLLATE LATCH SHAFT	1	N
24	D0054A	9105522T	CAP RECT VINYL 23x13x1.5	1	Y
25	E0227A	9103755C	M3 STUD CAP	2	Y
26	E0375A	9105804M	BUSH SNAP 12.7IDx6.4L	1	Y
27	E1107A	9105507C	BEARING BALL 6x13x5	12	Y
28	E1108A	9105506B	BEARING FLANGED 6x13x5	2	Y
29	G1025A	9104625J	SPRING PRESSURE	6	Y
30	G1186A	9106068F	CONVEYOR LATCH SPRING	1	Y
31	G1189A	9106087G	LATCH SPRING LH	1	Y
32	G6028A	9104879Y	SHIM BRAKE	4	Y
33	G6200A	9105820D	GUIDE SHIM	1	Y
34	P2001A		GUIDE SPIGOT	2	N
35	P2057A	9105696Z	LATCH CLAMP SPIGOT	2	Y

4.12 - C4 Collate Pocket Clam Assy. - A2-1069-A (9110098K)

Item	Part No.	Description	Qty.	Spares
Fixings				
50	E2826A	SCREW M4x8 TORX PAN HD	8	SEE FIXING KIT FOR THIS ASSEMBLY A0-0559-A (9110097J) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.
51	E2-0848-A	SCREW M3x6 TORX CSK HD	2	
52	E2827A	SCREW M4x12 TORX PAN HD	2	
53	E2830A	SCREW M4x12 TORX PAN HD T/T	4	
54	E2834A	SCREW M4x10 TORX CSK HD	1	
55	E3505A	NUT M4 NYLOC	4	
56	E3507A	NUT M4 HALF	2	
57	E5003A	CIRCLIP 7mm 'E' TYPE	4	
58	E5073A	CIRCLIP 9.5mm 'E' TYPE	2	
59	E5081A	CIRCLIP 4.5 'E' TYPE	2	
60	G4092A	BRIDGE CLAMP	A/R	

4.12 - C4 Collate Pocket Clam Assy. - A2-1069-A (9110098K)

SENSORS		
Item	**Description**	**Ref.**
S1	Collate Pocket Input TX	5.12


S1
SA1
SA2
SEE NOTE 2
NOTES
1) BRIDGE CLAMPS G4092A (ITEM 43) WITH M4 x 12 TORX HD SCREWS E2827A ARE FITTED IN ALL LOCATIONS MARKED
2) ITEMS 35 & 59 MUST BE ORDERED TOGETHER
F1-0461-A (x6) PULLEY 25T XL (ITEM 34)
C2-1034-A (x6) BELT BOBBIN (ITEM 10)
F5119A (x1.5) BELT SET 140XL O37 (ITEM 36)
C2-1036-A (x6) CONVEYOR WHEEL (ITEM 11)
C2-1036-A (x6) CONVEYOR WHEEL (ITEM 11)
BELT FITTING DIAGRAM

Item	Part No.		Description	Qty.	Spares
1	B2-1151-A		CONVEYOR SIDE PLATE DR	1	N
2	B2-1152-A		CONVEYOR SIDE PLATE OP	1	N
3	B2-1154-A		BOBBIN BRACKET	6	N
4	B2-1156-A		LATCH CONVEYOR DRIVE	1	N
5	B2-1157-A		LATCH CONVEYOR OP	1	N
6	N/R				
7	B2-1161-A		CONVEYOR BRIDGE	1	N
8	B9313A		CENTRAL OVERGUIDE	4	N (See Spares Assy 2)
9	C2-1028-A		T BEARING HOUSING	2	N (See Spares Assy 1)
10	C2-1034-A	9110099L	BELT BOBBIN	6	Y
11	C2-1036-A	9110100M	CONVEYOR WHEEL	12	Y
12	N/R				
13	N/R				
14	C2751A		WASHER 'D' SHAFT	2	N
15	C3-0685-A	9110101N	IDLER PIN	6	Y
16	C5-1038-V		LATCH HANDLE	1	N
17	C5-1042-A		CONVEYOR LATCH SHAFT	1	N
18	C5-1043-A		OVERGUIDE PIVOT SHAFT	1	N
19	C5-1045-A		IDLER PULLEY SHAFT	2	N
20	C5-1312-A		UPPER CONV. DRIVE SHAFT 10mm	1	N
21	C5-1048-A		CONV. P. WHEEL SHAFT	1	N
22	C9278A		SENSOR POST 106mm	1	N
23	D0-0063-A		SOFT RUBBER WHEEL 40 DIA	4	N (See Spares Assy 1)
24	D1040A	9103641J	T BEARING 8mm 12SQ	16	Y
25	E0367A	9103789N	WASHER WAVED 23mm	12	Y
26	E0375A	9105805M	BUSH SNAP 12.7I/D x 6.4L	1	Y
27	E0475A	9103795U	WAVED WASHER EPL5	1	Y
28	E1-0138-A	9109987U	BEARING BALL FL 10 x 22 x 6	26	Y
29	E1078A	9103835L	BEARING FL 8 x 22 x 7mm	12	Y
30	E1107A		BEARING BALL 6 x 13 x 5	4	N (See Spares Assy 1)
31	E1114A		BEARING BALL 8 x 22 x 7	5	N (See Spares Assy 2)
32	E4-0073-A	9110108V	WAVY WASHER 6.73 I/D 0.76 H 9.32 O/D	2	Y
33	E4033A	9104072H	WASHER WAVED 8.89 I/D,12.5 O/D	12	Y
34	F1-0461-A	9112106B	PULLEY 25T XL x 10 DIA	6	Y
35	F4-0319-A	9112445E	GEAR 40T 1M 10 I/D	1	Y
36	F5119A	9104497A	BELT 140XL 037 POLYURETHANE	1.5	Y
37	G1-0254-A	9110102P	BELT TENSION SPRING 0.51 DIA	12	Y
38	G1-0258-A		SEALER SPRING	2	N (See Spares Assy 1)
39	G1182A	9104715C	SPRING CONVEYOR	2	Y
40	G1184A	9105602B	SPRING LATCH RH	1	Y

4.13 - C4 Head Input Conveyor Upper - A2-1054-A (9110107U)

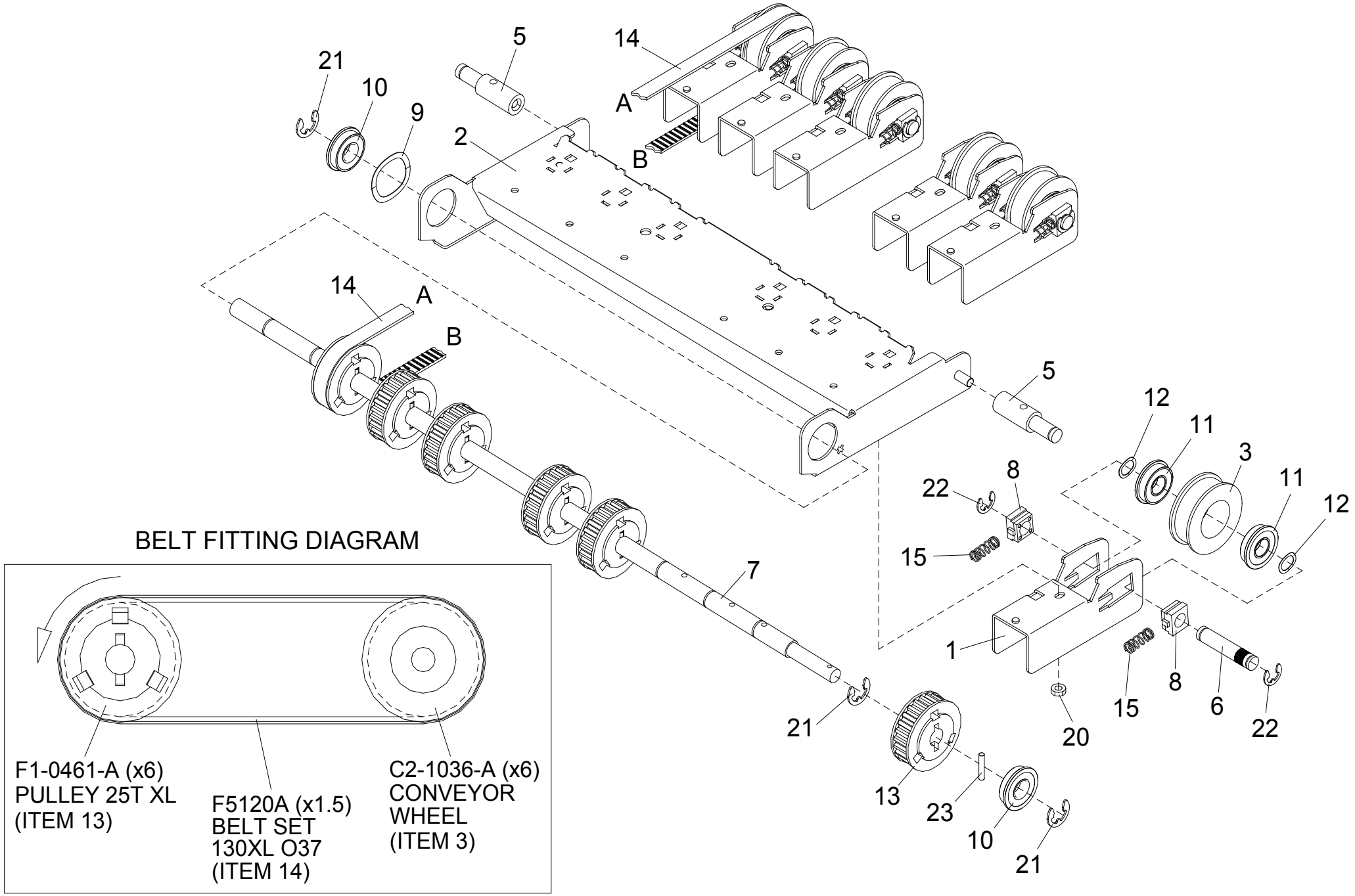
Item	Part No.		Description	Qty.	Spares
41	G1185A	9105590P	SPRING LATCH LH	1	Y
42	G1206A		OVERGUIDE SPRING	4	N (See Spares Assy 2)
43	G4092A		BRIDGE CLAMP	6	N
44	G1-0289-A	9111631G	SPRING CONV. INPUT	2	Y
45	E0425A	9110007Q	WASHER 10.2 x 17 x 2	1	Y

Fixings

50	E2826A		M4 x 8mm TORX PAN HD SCREW	2	
51	E2832A		M4 x 10mm TORX PAN HD SCREW	1	
52	E2830A		M4 x 12mm TORX PAN HD SCREW T/T	6	
53	E2-0858-A		M4 x 16mm TORX PAN HD SCREW	2	
54	E3505A		M4 NYLOC NUT	2	SEE FIXING KIT FOR THIS ASSEMBLY
55	E5092A		12mm 'E' TYPE CIRCLIP	2	A0-0562-A (9110106T)
56	E5073A		9.5mm 'E' TYPE CIRCLIP	6	**NOTE:** FIXINGS ARE NOT AVAILABLE
57	E5076A		7mm 'E' TYPE CIRCLIP	2	INDIVIDUALLY.
58	E5086A		PIN DOWEL 3 DIA x 16mm	6	
59	E5105A		PIN DOWEL 3 DIA x 24mm	1	

Spares assemblies

SA1	A0-0560-A	9110104R	CONV. P. WHEEL SHAFT ASSY	A/R
SA2	A0-0561-A	9110105S	CENTRAL OVERGUIDE ASSY	A/R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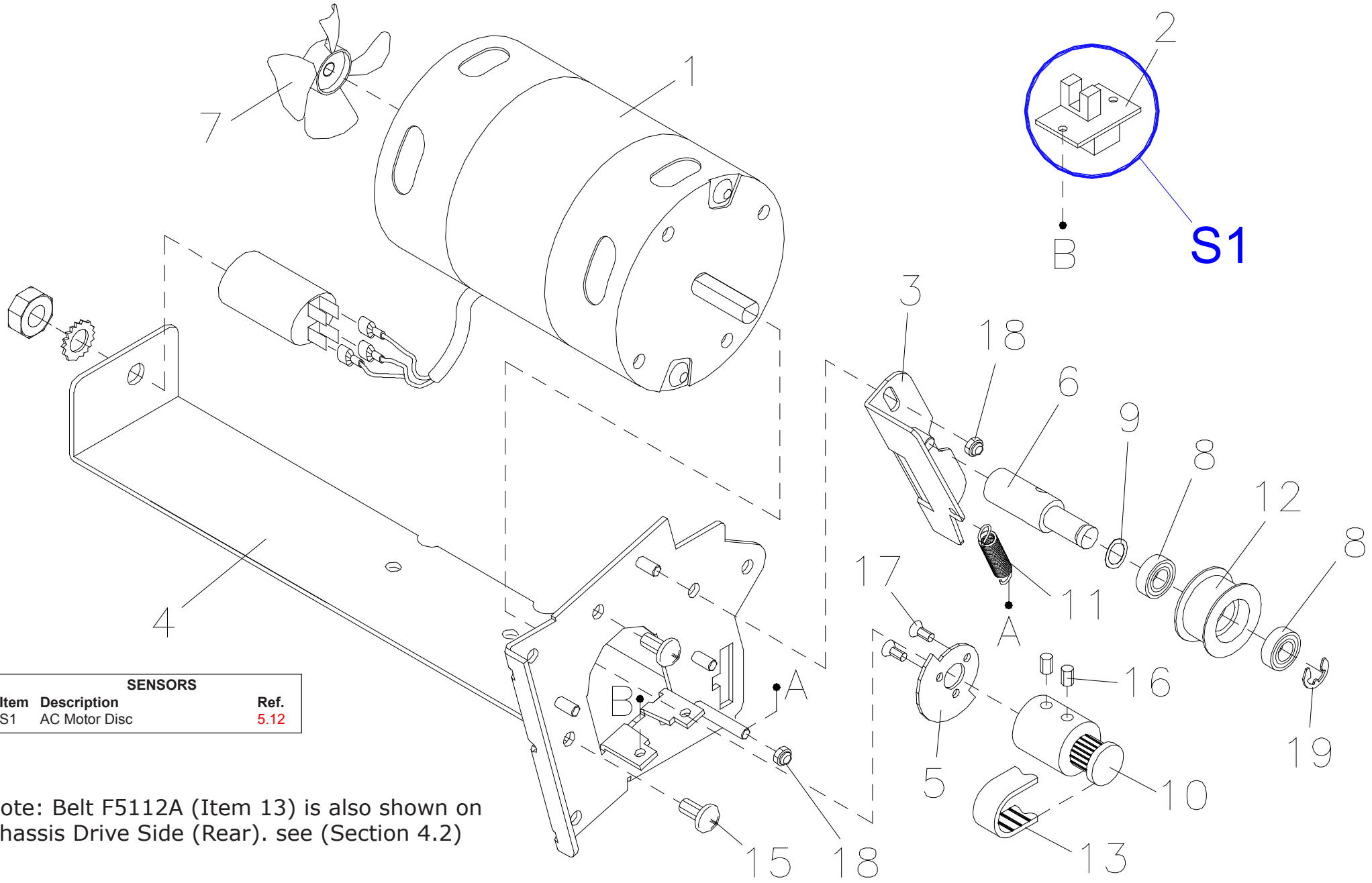
BELT FITTING DIAGRAM
F1-0461-A (x6)
PULLEY 25T XL
(ITEM 13)
F5120A (x1.5)
BELT SET
130XL O37
(ITEM 14)
C2-1036-A (x6)
CONVEYOR
WHEEL
(ITEM 3)

Item	Part No.		Description	Qty.	Spares
1	B2-1153-A		PULLEY IDLER BRACKET	6	N
2	B2-1164-A		LOWER CONVEYOR BODY	1	N
3	C2-1036-A		CONVEYOR WHEEL	6	N
4	N/R				
5	C3-0678-A		BEARING POST	2	N
6	C3-0685-A	9110101N	IDLER PIN	6	Y
7	C5-1036-A		LOWER CONV. DR. SHAFT	1	N
8	D1040A	9103641J	T BEARING 8mm 12 SQ.	12	Y
9	E0367A	9103789N	WASHER WAVED 23mm ID	1	Y
10	E1-0138-A	9109987U	BEARING BALL FL 10x22x6	2	Y
11	E1078A	9103835L	BEARING FL 8x22x7mm	12	Y
12	E4033A	9104072H	WASHER WAVED 8.89ID, 12.5OD	12	Y
13	F1-0461-A	9112106B	PULLEY 25T XL x 10 BORE	6	Y
14	F5120A	9104499C	BELT 130XL 037 POLYURETHENE	1.5	Y
15	G1111A	9104681S	SPRING LIGHT PRESSURE	12	Y
Fixings					
20	E3505A		M4 NYLOC NUT	1	SEE FIXING KIT FOR THIS ASSEMBLY A0-0564-A 9110115C **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
21	E5092A		12mm 'E' TYPE CIRCLIP	4	
22	E5073A		9.5mm 'E' TYPE CIRCLIP	4	
23	E5086A		PIN DOWEL 3 DIA x 16mm	2	
24	N/R				

4.14 - C4 Head Input Conv. Lower - A2-1055-A (9110116D)



SENSORS		
Item	**Description**	**Ref.**
S1	AC Motor Disc	5.12

Note: Belt F5112A (Item 13) is also shown on Chassis Drive Side (Rear). see (Section 4.2)

4.15 - Motor Assy. - A2-1056-A (9110111Y): 115V or A2-1057-A (9110112Z): 230V

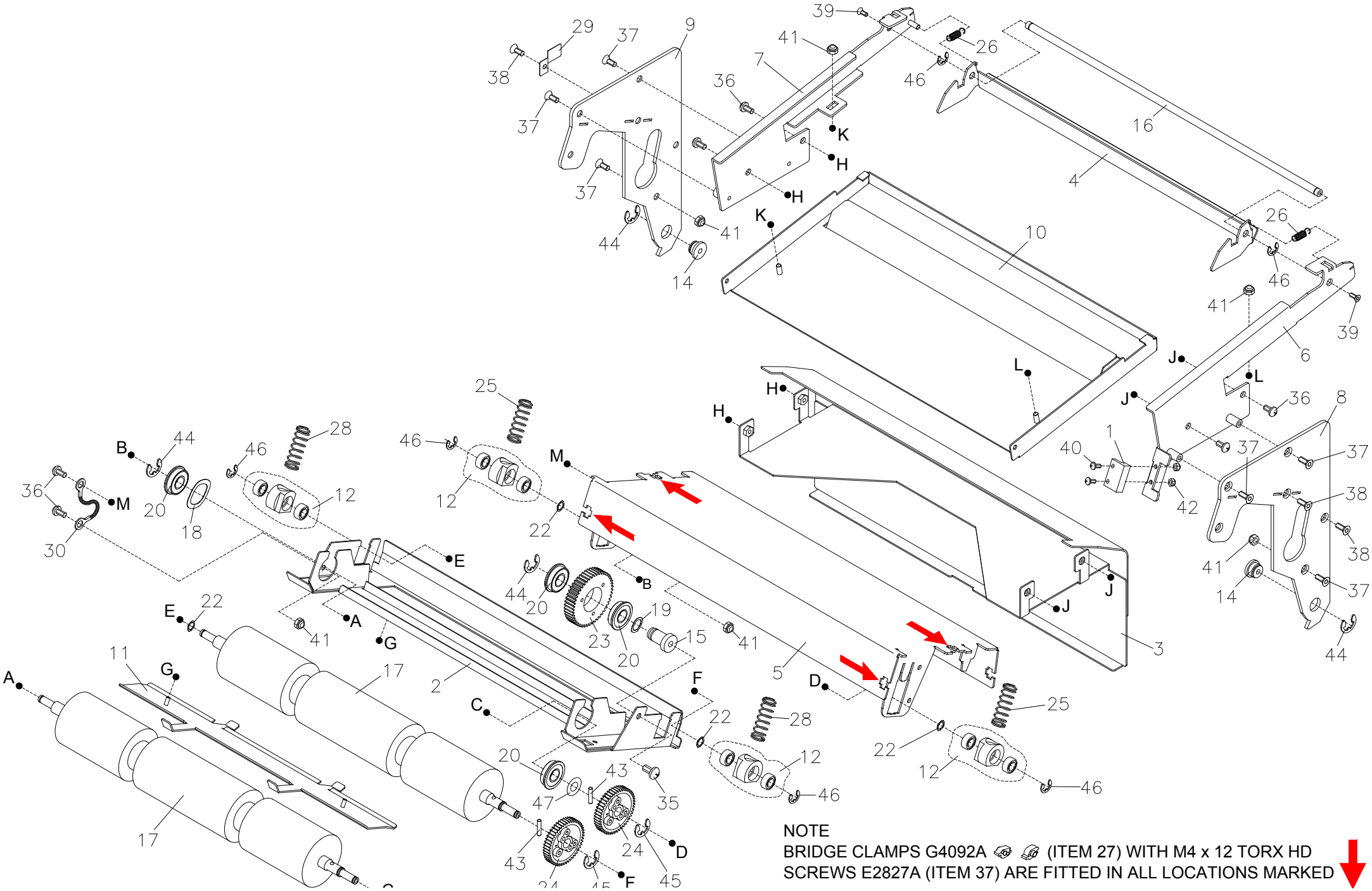
Item	Part No.		Description	Qty.	Spares
			MOTOR ASSEMBLY 115V: A2-1056-A (9110111Y)		
1	181-569	9100831G	MOTOR W/D 179-073	1	Y
2	180-776	9110109W	PCB WIDEBODY DISK SENSOR	1	Y
3	B2-1149-A		TENSION BRACKET	1	N
4	B2-1150-A		MOTOR BRACKET	1	N
5	B3-1053-A		SINGLE SLOT DISC	1	N
6	C3-0678-A		BEARING POST	1	N
7	E0181A	9103738K	FAN 2 5/8” DIA CCW	1	Y
8	E1061A	9103826B	BEARING BALL 8x16x5mm	2	Y
9	E4033A	9104072H	WASHER WAVED 8.89ID,12.5 OD	1	Y
10	F1373A	9104297S	PULLEY 15T S2M MOTOR	1	Y
11	G1006A	9104609S	SPRING TRACTOR	1	Y
12	P2448A	9105669W	BELT IDLER	1	Y
13	F5112A	9104493W	BELT 100-S2M-280	1	Y
	Fixings				
15	E2-0840-A		SCREW M5 x 10mm TORX PAN HD.	1	SEE FIXING KIT FOR THIS ASSEMBLY A0-0563-A (9110110X) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.
16	E2505A		SCREW M4 x 6mm SOCKET SET	2	
17	E2502A		SCREW M3 x 8mm CSK HD.	2	
18	E3505A		M4 LOCKNUT	2	
19	E5073A		9.5mm ‘E’ CLIP	2	

See following page for 230V Motor Assy.

Item	Part No.		Description	Qty.	Spares
			MOTOR ASSEMBLY 230V: A2-1056-A (9110112Z)		
1	181-069	9105274K	MOTOR W/D 179-072	1	Y
2	180-776	9110109W	PCB WIDEBODY DISK SENSOR	1	Y
3	B2-1149-A		TENSION BRACKET	1	N
4	B2-1150-A		MOTOR BRACKET	1	N
5	B3-1053-A		SINGLE SLOT DISC	1	N
6	C3-0678-A		BEARING POST	1	N
7	E0181A	9103738K	FAN 2 5/8” DIA CCW	1	Y
8	E1061A	9103826B	BEARING BALL 8x16x5mm	2	Y
9	E4033A	9104072H	WASHER WAVED 8.89ID,12.5 OD	1	Y
10	F1372A	9105627C	PULLEY 15T S2M MOTOR	1	Y
11	G1006A	9104609S	SPRING TRACTOR	1	Y
12	P2448A	9105669W	BELT IDLER	1	Y
13	F5112A	9104493W	BELT 100-S2M-280	1	Y
	Fixings				
15	E2-0840-A		SCREW M5 x 10mm TORX PAN HD.	1	SEE FIXING KIT FOR THIS ASSEMBLY A0-0563-A (9110110X) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY.
16	E2505A		SCREW M4 x 6mm SOCKET SET	2	
17	E2502A		SCREW M3 x 8mm CSK HD.	2	
18	E3505A		M4 LOCKNUT	2	
19	E5073A		9.5mm ‘E’ CLIP	2	

See previous page for 115V Motor Assy.

4.15 - Motor Assy. - A2-1057-A (9110112Z): 230V



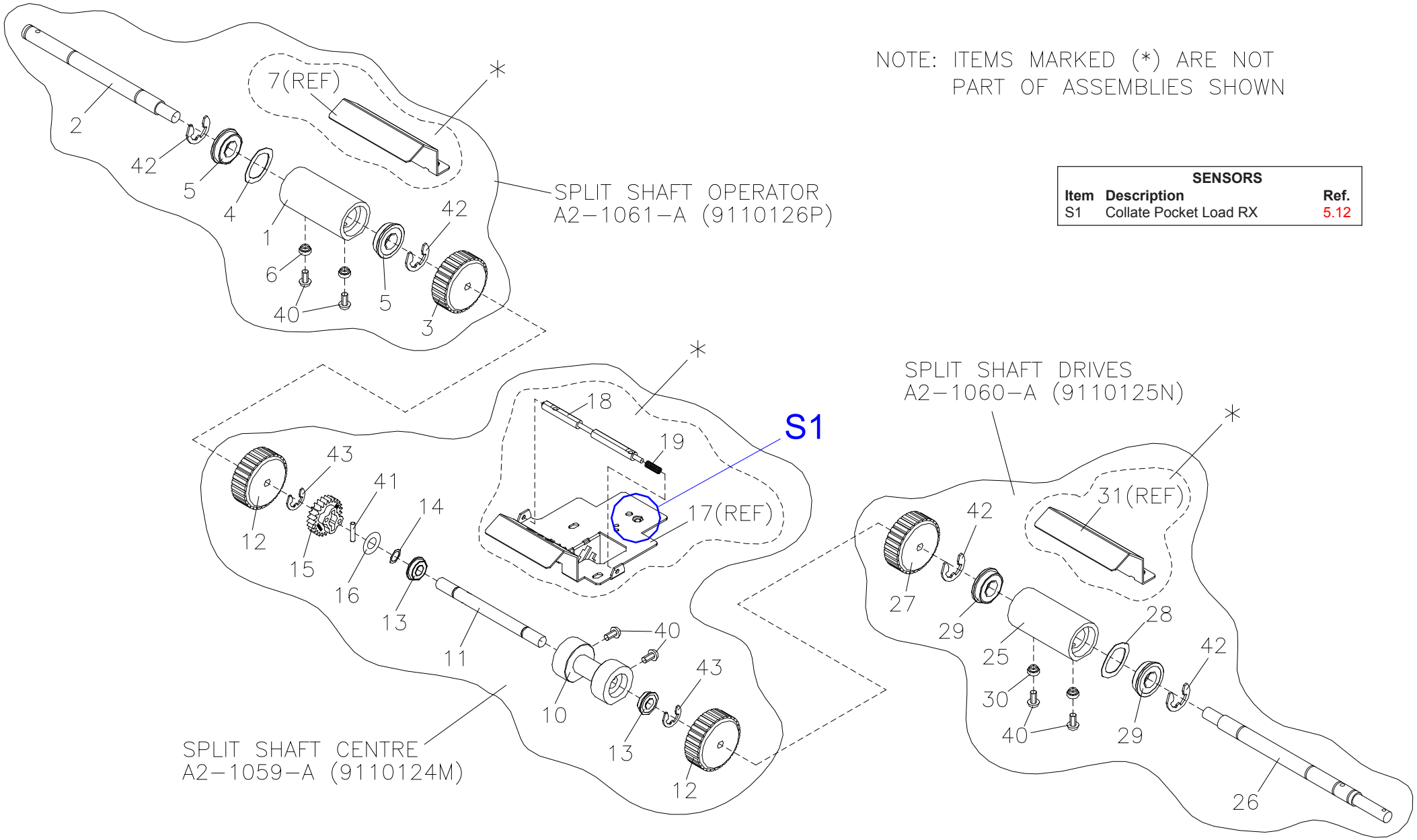
4.16 - Sealer Assembly - A2-1058-A

Item	Part No.		Description	Qty.	Spares
1	131-824	9100302F	SWITCH MAGNET SMALL	1	Y
2	B1-0933-A		SEALER ROLLER BKT ASSY	1	N
3	B1-0934-S		SEALER COVER ASSY	1	N
4	B2-1177-F		LATCH BRACKET	1	N
5	B2-1179-A		SEALER ASSY BRIDGE	1	N
6	B2-1180-A		SEALER LATCH ARM DR.	1	N
7	B2-1181-A		SEALER LATCH ARM OP.	1	N
8	B2-1182-S		SEALER SIDE ARM DR.	1	N
9	B2-1183-S		SEALER SIDE ARM OP.	1	N
10	B3-1079-S		SEALER LATCH COVER	1	N
11	B3-1345-A		GUIDE PLATE	1	N
12	C2-1028-A	9109991Y	T BEARING HOUSING	4	Y
13	C2-1029-A	9109975G	GEAR SPACER	1	Y
14	C2-1046-A	9110117E	SEALER ASSY PIVOT	2	Y
15	C3-0681-A	9109970B	IDLER POST	1	Y
16	C5-1049-A		SEALER LATCH PIVOT	1	N
17	C8-0208-A	9109563C	UPPER SEAL ROLLER 48 DIA	2	Y
18	E0367A	9103789N	WASHER WAVED 23mm I/D	1	Y
19	E0475A	9103795U	WAVED WASHER EPL5	1	Y
20	E1-0138-A	9109987U	BEARING BALL FL 10x22x6	4	Y
21	E1107A	9105507C	BEARING BALL 6x13x5	8	Y
22	E4-0073-A	9110108V	WAVY WASHER 6.73 I/D 0.76H	4	Y
23	F4-0295-A	9109980M	GEAR 48T 1M IDLER	1	Y
24	F4182A	9105633J	GEAR 35Tx8mm 1.0M	2	Y
25	G1-0258-A	9109992Z	SEALER SPRING	2	Y
26	G1091A	9104665A	SPRING SEPARATOR	2	Y
27	G4092A	9104827U	BRIDGE CLAMP	6	Y
28	G1-0285-A	9110118F	CLOSER SPRING 1.2 N/mm	2	Y
29	B0-0229-A	9113670F	GUIDE SPRING	1	Y
30	181-A0005751		EARTH BRAID 0.75M	1	Y

4.16 - Sealer Assembly - A2-1058-A (9110121J)

Item	Part No.	Description	Qty.	Spares
Fixings				
35	E2-0840-A	M5 x 10 TORX PAN HD SCREW	1	SEE FIXING KIT FOR THIS ASSEMBLY A0-0566-A (9110119G) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
36	E2826A	M4 x 8 TORX PAN HD SCREW	4	
37	E2834A	M4 x 10 TORX CSK HD SCREW	4	
38	E2-0838-A	M4 x 12 TORX CSK HD SCREW	4	
39	E2-0842-A	M3 x 8 TORX CSK HD SCREW	2	
40	E2559A	M3 x 10 PAN HD SCREW	2	
41	E3505A	M4 NYLOC NUT	2	
42	E3557A	M3 NYLOC NUT	2	
43	E5071A	PIN DOWEL 3 DIA x 14	2	
44	E5092A	CIRCLIP 12mm 'E' TYPE	2	
45	E5073A	CIRCLIP 9.5mm 'E' TYPE	2	
46	E5003A	CIRCLIP 7.0mm 'E' TYPE	4	
47	G6028A	BRAKE SHIM	A/R	

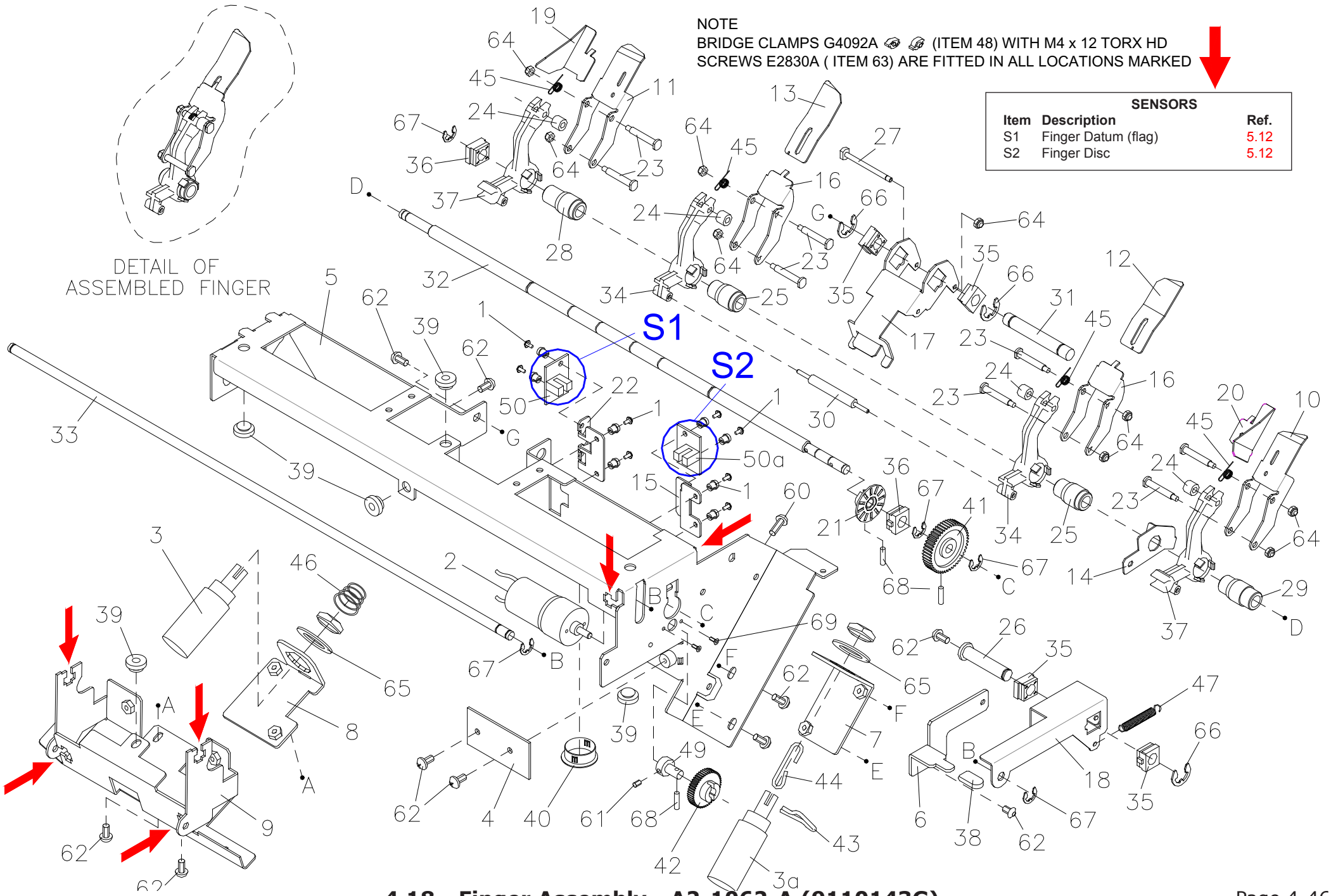
4.16 - Sealer Assembly - A2-1058-A (9110121J)



4.17 - Split Shaft Sub-Assemblies A2-1059/1060/1061-A (911012M/9110125N/9110126P)

Item	Part No.		Description	Qty.	Spares
	A2-1061-A	**9110126P**	**SPLIT SHAFT OPERATOR**	**1**	**Y**
1	C4319A		SPLIT SHAFT HOUSING	1	N
2	C5-1035-A		SPLIT SHAFT SHORT	1	N
3	D0045A		ROLLER TRANSPORT NOTCHED	1	N
4	E0367A		WASHER WAVED 23mm I/D	1	N
5	E1-0138-A		BEARING BALL FL 10 x 22 x 6	2	N
6	P2048A		SPIGOT	2	N
7	B3-1123-A		SPLIT SHAFT COVER	1	N
	A2-1059-A	**9110124M**	**SPLIT SHAFT CENTRE**	**1**	**Y**
10	C3-0679-A		SPLIT SHAFT HOUSING	1	N
11	C4-0514-A		SPLIT SHAFT CENTRE	1	N
12	D0045A		ROLLER TRANSPORT NOTCHED	2	N
13	E1102A		BEARING FL 8x19x6mm	2	N
14	E4033A		WASHER WAVED	1	N
15	F4152A		GEAR 25Tx8mm 1.0M	1	N
16	G6028A		SHIM BRAKE	1	N
17	B3-1121-A		COLLATE SENSOR BRACKET	1	N
18	C4-0528-A		COLLATE PANEL PIVOT	1	N
19	G1016A	9104618B	SPRING	1	Y
	A2-1060-A	**9110125N**	**SPLIT SHAFT DRIVES**	**1**	**Y**
25	C4319A		SPLIT SHAFT HOUSING	1	N
26	C5-1034-A		SPLIT SHAFT LONG	1	N
27	D0045A		ROLLER TRANSPORT NOTCHED	1	N
28	E0367A		WASHER WAVED 23mm I/D	1	N
29	E1-0138-A		BEARING BALL FL 10 x 22 x 6	2	N
30	P2048A		SPIGOT	2	N
31	B3-1123-A		SPLIT SHAFT COVER	1	N
Fixings					
40	E2826A		SCREW M4 x 8mm TORX PAN HD.	4	SEE FIXING KIT FOR THIS ASSEMBLY A0-0568-A (9110127Q). ORDER THIS KIT FOR ANY ONE ASSY, OR ALL 3. **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
41	E5071A		PIN DOWEL 3 DIA x 14mm	1	
42	E5092A		12mm 'E' TYPE CIRCLIP	2	
43	E5073A		9.5mm 'E' TYPE CIRCLIP	2	

4.17 - Split Shaft Sub-Assemblies A2-1059/1060/1061-A (911012M/9110125N/9110126P)


DETAIL OF ASSEMBLED FINGER
NOTE
BRIDGE CLAMPS G4092A (ITEM 48) WITH M4 x 12 TORX HD SCREWS E2830A (ITEM 63) ARE FITTED IN ALL LOCATIONS MARKED
SENSORS
Item Description Ref.
S1 Finger Datum (flag) 5.12
S2 Finger Disc 5.12
S1
S2

4.18 - Finger Assembly - A2-1062-A (9110143G)

Item	Part No.		Description	Qty.	Spares
1	169-145	9104649E	RIVET 3.5mm 2.0-3.0 GRIP	4	Y
2	181-070	9100788M	WIRED MOTOR	1	Y
3	181-1610	9109568H	SOLENOID W/D 179-3550 (MIDDLE)	1	Y
3a	181-1610	9109568H	SOLENOID W/D 179-3550 (DR)	1	Y
4	180-760	9100745S	PCB SPLITTER 3 SEN 4 SOL H/D (No. 7)	1	Y
5	B2-1244-A		FINGER CHASSIS	1	N
6	B2-1246-A		FINGER STOP BRACKET DR	1	N
7	B2-1251-A		FINGER SOLENOID BRACKET	1	N
8	B2-1492-A		INNER SOLENOID BRACKET	1	N
9	B2-1493-A		SOLENOID SUPPORT BRACKET	1	N
10	B3-1108-Z	9110128R	FINGER OUTER DRIVES C4	1	Y
11	B3-1109-Z	9110129S	FINGER OUTER OPERATOR C4	1	Y
12	B3-1110-A	9110130T	FINGER MIDDLE DRIVES C4	1	Y
13	B3-1111-A	9110131U	FINGER MIDDLE OP C4	1	Y
14	B3-1112-A		FINGER SENSOR FLAG	1	N
15	B3-1113-A		FINGER DISK SENSOR BKT	1	N
16	B3-1114-A	9110132V	INSERTION FINGER SUPPORT	2	Y
17	B3-1249-A		INNER FINGER DRIVE BKT	1	N
18	B3-1251-A		FINGER PIVOT BRACKET DR	1	N
19	B3-1325-A	9110133W	FINGER S/GUIDE OPERATOR	1	Y
20	B3-1326-A	9110134X	FINGER S/GUIDE DRIVES	1	Y
21	B4330A		DISC ASSEMBLY	1	N
22	B7433A		SENSOR BRACKET	1	N
23	C2-1062-A	9110135Y	FINGER PIN C4	8	Y
24	C2-1116-A	9110136Z	FINGER SPACER	4	Y
25	C2-1191-A		FINGER BUSH	2	N
26	C3-0714-A		FINGER PIVOT	1	N
27	C3-0715-A	9110137A	SOLENOID PIN	1	Y
28	C3-0739-A		FINGER NUT OPERATOR	1	N
29	C3-0740-A		FINGER NUT DRIVES	1	N
30	C4-0548-A	9110138B	INNER FINGER DRIVE SHAFT	1	Y
31	C4-0564-A		INNER FINGER PIVOT	1	N
32	C5-1062-A		ADJUSTMENT SHAFT	1	N
33	C5-1127-A		FINGER ROD	1	N
34	C6-0432-A		INNER FINGER BODY	2	N
35	D1040A	9103641J	T BEARING 8mm 12 SQ.	4	Y
36	D1076A	9105521S	T BEARING 6mm 10 SQ.	2	Y
37	D1080A		MOULDED FINGER BODY	2	N
38	E0204A	9103744R	VINYL PROTN CAP 3.5x12.7	1	Y
39	E0291A	9105793A	FOOT PUSH-IN	5	Y

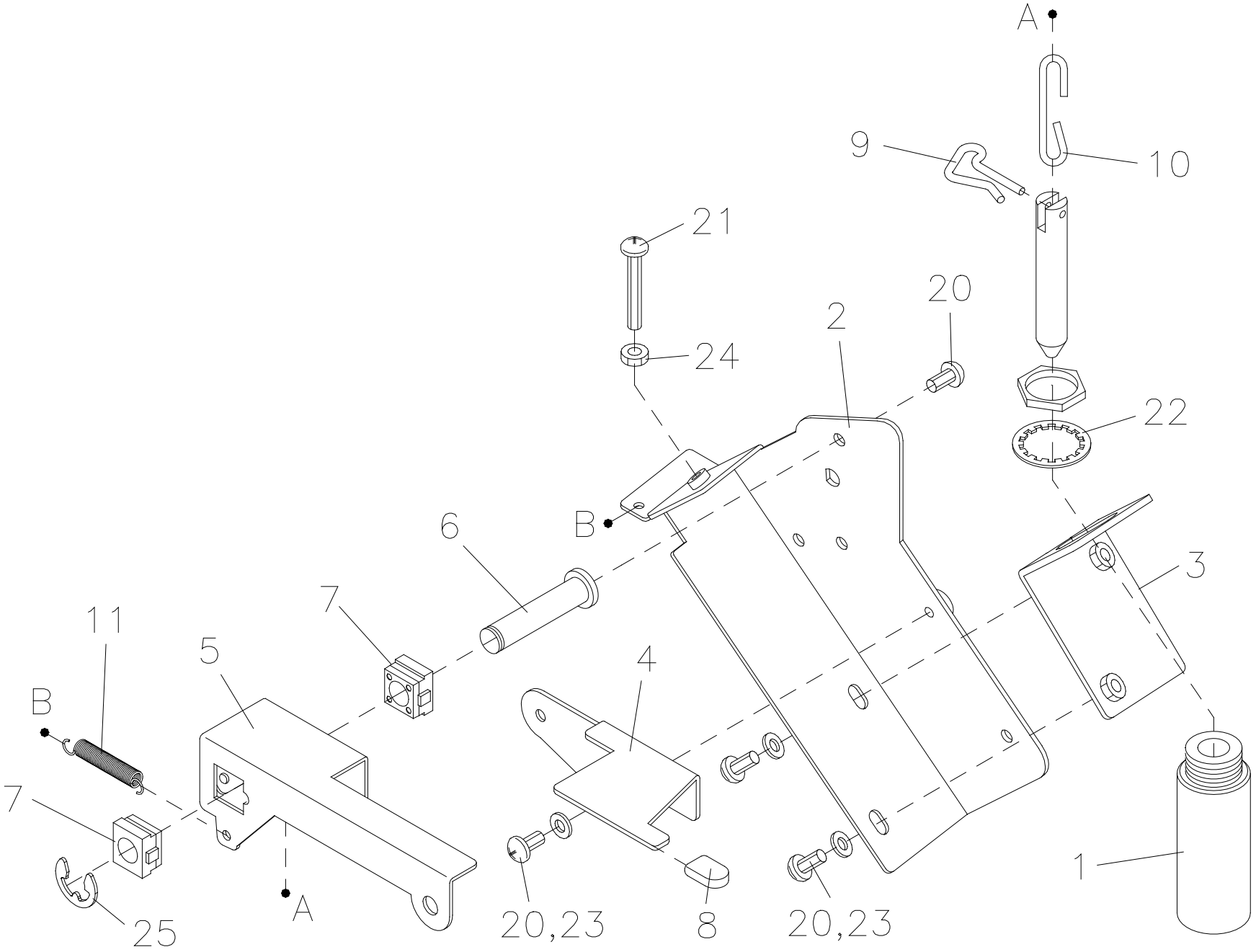
4.18 - Finger Assembly - A2-1062-A (9110143G)

Item	Part No.		Description	Qty.	Spares
40	E0375A		BUSH SNAP 12.7 I/D x 6.4L	1	N
41	F4175A	9104405E	GEAR 45Tx6mm 0.7M	1	Y
42	F4176A	9104406F	GEAR 35Tx6mm 0.7M	1	Y
43	G0079A	9104579L	CLUTCH PIN	1	Y
44	G1-0256-A	9109575Q	SPRING LINK	1	Y
45	G1-0257-A	9110139C	FINGER SPRING C4	4	Y
46	G1-0277-A	9110140D	INNER FINGER SPRING	1	Y
47	G1152A	9104699L	SPRING SOLENOID	1	Y
48	G4092A		BRIDGE CLAMP	6	N
49	P2031A		SHAFT ADAPTOR	1	N
50	180-776	9100753A	SENSOR PCB FINGER DATUM (FLAG)	1	Y
50a	180-776	9100753A	SENSOR PCB FINGER DISC	1	Y

Fixings

60	E2-0857-A		M4 x 25mm TORX PAN HD SCREW	1	
61	E2571A		M3 x 5mm SOCKET SET SCREW	1	
62	E2826A		M4 x 8mm TORX PAN HD SCREW	6	
63	E2830A		M4 x 12mm TORX PAN HD SCREW	2	
64	E3557A		M3 NYLOC NUT	4	SEE FIXING KIT FOR THIS ASSEMBLY A0-0569-A (9110142F) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
65	E4072A		M20 WASHER INT SH/PROOF	2	
66	E5073A		CIRCLIP 9.5mm E TYPE	3	
67	E5076A		CIRCLIP 7mm E TYPE	2	
68	E5082A		PIN GROOVED 2.5 x 12	1	
69	E2774A		M2 x 6mm POZI CSK HD SCREW	1	

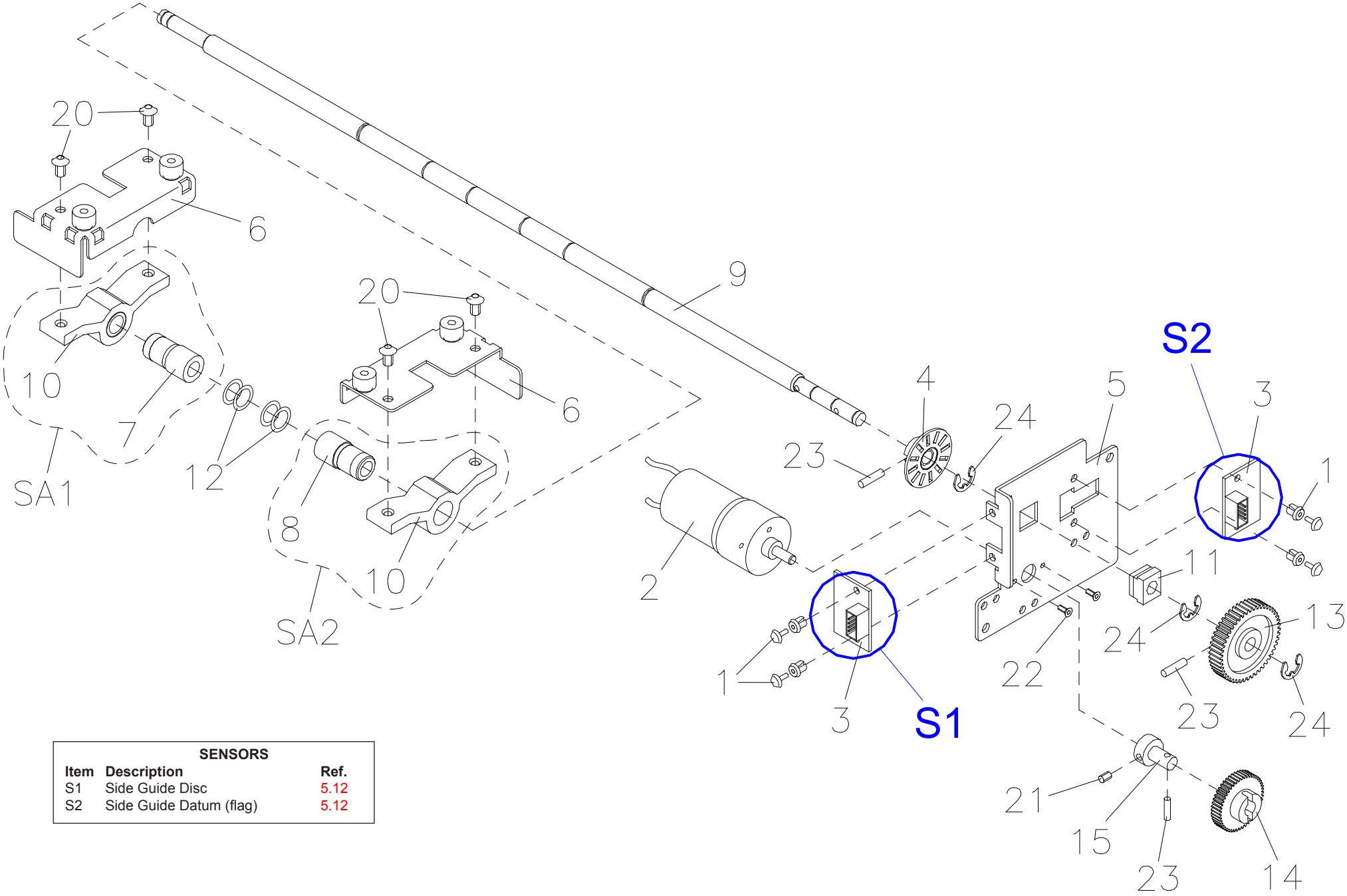
4.18 - Finger Assembly - A2-1062-A (9110143G)



4.19 - Finger Bkt. Op Assembly - A2-1073-A (9110171L)

Item	Part No.		Description	Qty.	Spares
1	181-1610	9109568H	SOLENOID W/D 179-3550 XH	1	Y
2	B2-1250-A		FINGER BRACKET OPERATOR	1	N
3	B2-1251-A		FINGER SOLENOID BRACKET	1	N
4	B2-1254-A		FINGER STOP BKT OPERATOR	1	N
5	B3-1250-A		FINGER PIVOT BRACKET OP	1	N
6	C3-0714-A		FINGER PIVOT	1	N
7	D1040A	9103641J	T BEARING 8mm 12SQ	2	Y
8	E0204A		VINYL PROTN CAP 3.5x12.7	1	N
9	G0079A	9104579L	CLUTCH PIN	1	Y
10	G1-0256-A	9109575Q	SPRING LINK	1	Y
11	G1152A	9104699L	SPRING SOLENOID	1	Y
Fixings					
20	E2826A		SCREW M4 x 8mm TORX PAN HD	2	SEE FIXING KIT FOR THIS ASSEMBLY A0-0572-A (9110170K) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
21	E2-0857-A		SCREW M4 x 25mm TORX PAN HD	1	
22	E4072A		WASHER M20 INT SH/PROOF	1	
23	E4011A		M4 WASHER	2	
24	E3502A		M4 FULL NUT	2	
25	E5073A		CIRCLIP 9.5mm 'E' TYPE	2	

4.19 - Finger Bkt. Op Assembly - A2-1073-A (9110171L)



SENSORS		
Item	**Description**	**Ref.**
S1	Side Guide Disc	5.12
S2	Side Guide Datum (flag)	5.12

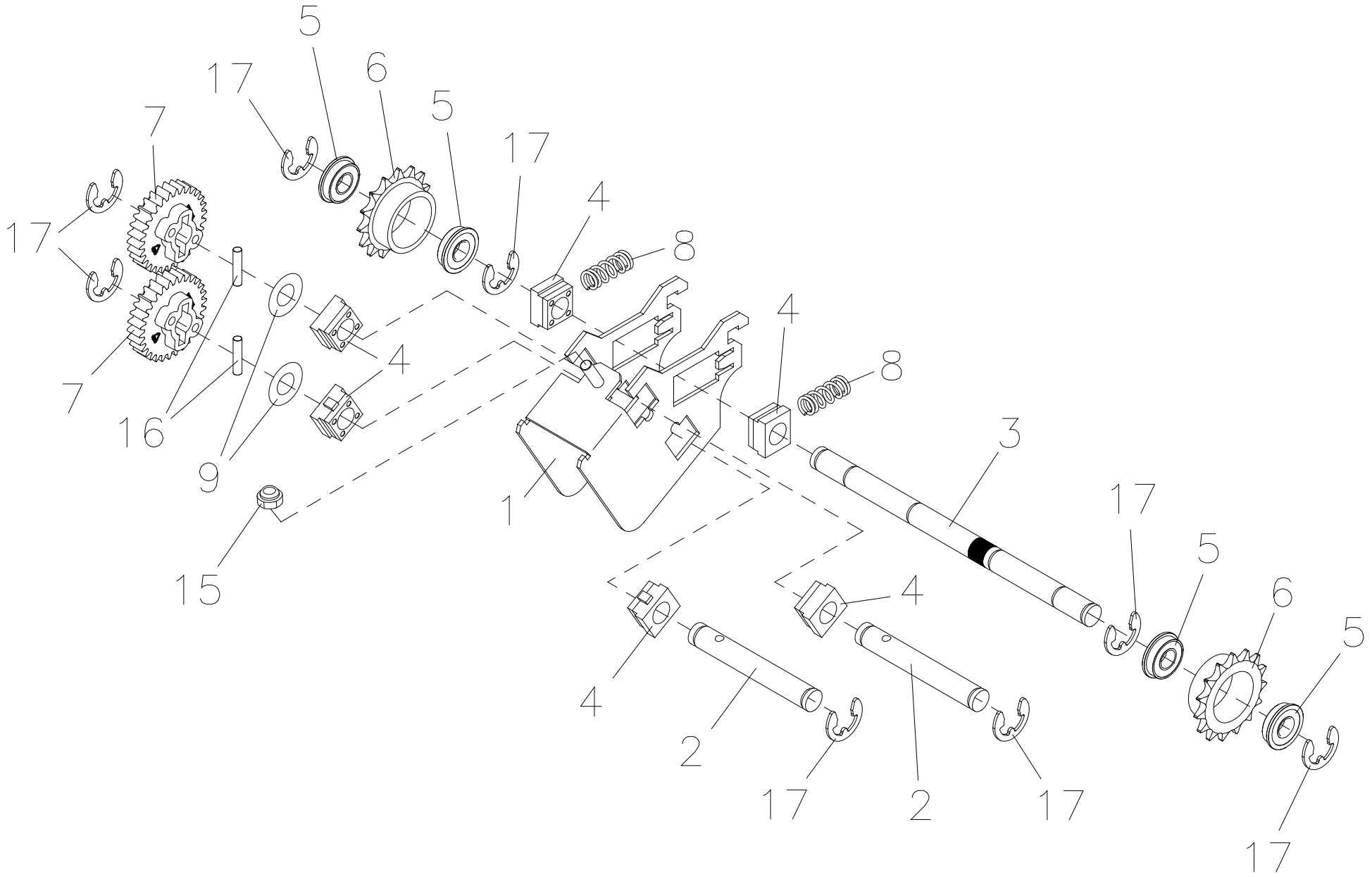
4.20 - Side Guide Adjust Assembly - A2-1063-A (9110146K)

Item	Part No.		Description	Qty.	Spares
1	169-145	9100469E	RIVET 3.5mm 2.0-3.0 GRIP	4	Y
2	181-070	9100788M	WIRED MOTOR	1	Y
3	180-776	9110109W	PCB WIDEBODY DISC SENSOR	2	Y
4	B4330A		DISC ASSEMBLY	1	N
5	B7478A		SIDEGUIDE MOTOR BRACKET	1	N
6	B7498A		GUIDE CARRIER	2	N
7	C3476A		FINGER NUT RH	1	N
8	C3477A		FINGER NUT LH	1	N
9	C5-1062-A		ADJUSTMENT SHAFT	1	N
10	C6340A		GUIDE CARRIER	2	N
11	D1076A	9105521S	T BEARING 6mm 10SQ	1	Y
12	E0-0618-A	9110144H	O RING 6.1I/D x 9.3O/D	4	Y
13	F4175A	9104405E	GEAR 45Tx6mm 0.7M	1	Y
14	F4176A	9104406F	GEAR 35Tx6mm 0.7M	1	Y
15	P2031A		SHAFT ADAPTOR	1	N
20	E2826A		SCREW M4 x 8mm TORX PAN HD	2	SEE FIXING KIT FOR THIS ASSEMBLY A0-0570-A (9110145J) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
21	E2571A		SCREW M3 x 5mm SOCKET SET	2	
22	E2774A		SCREW M2 x 6mm POZI CSK HD	2	
23	E5082A		PIN GROOVED 2.5 DIA x 12mm	2	
24	E5076A		CIRCLIP 7mm 'E' TYPE	4	

Spares Assemblies

SA1	A0-0597-A	9110630P	GUIDE CARRIER ASSY RH	A/R
SA2	A0-0598-A	9110631Q	GUIDE CARRIER ASSY LH	A/R

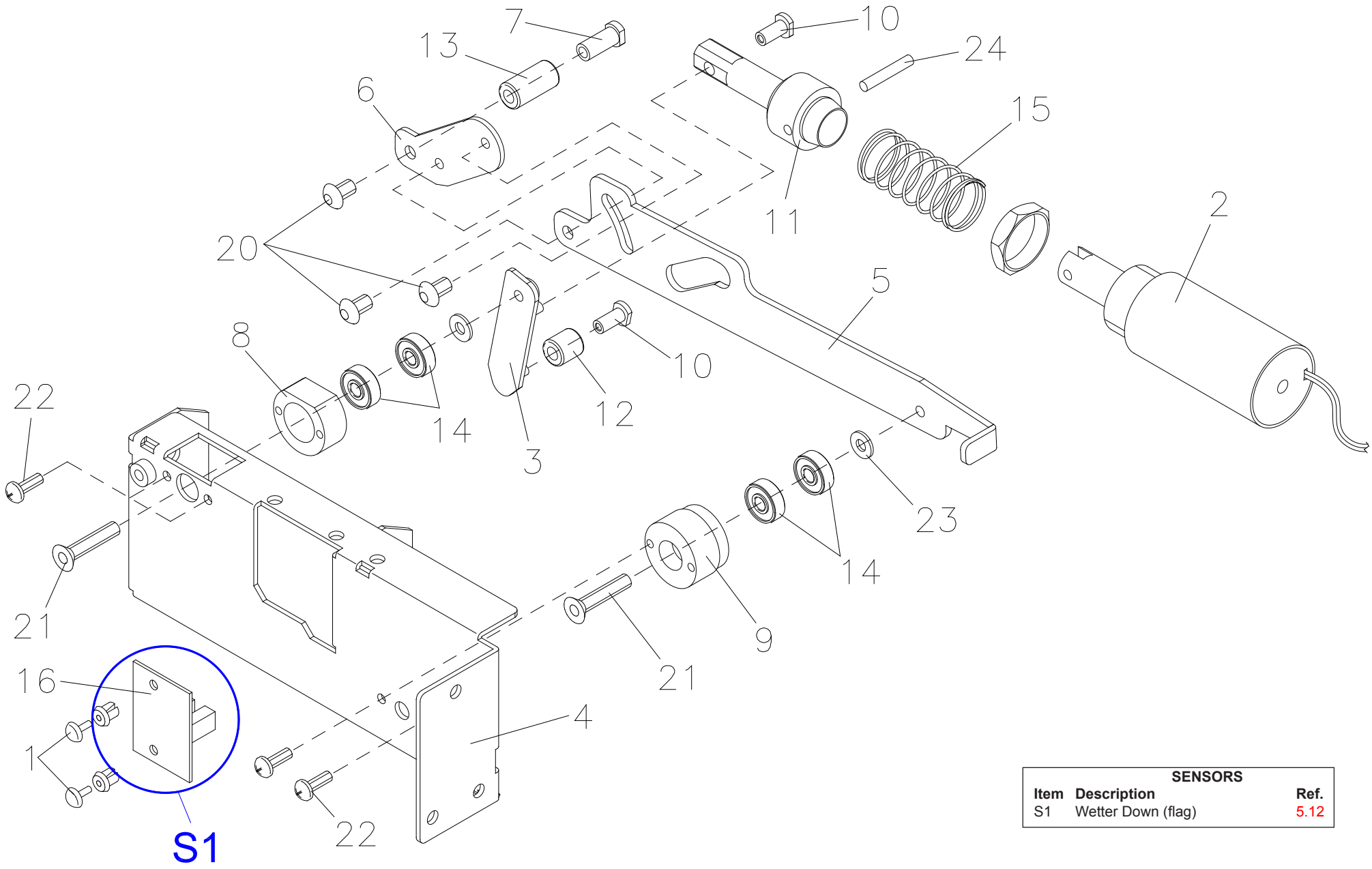
4.20 - Side Guide Adjust Assembly - A2-1063-A (9110146K)



4.21 - Pawl Tension Bracket Assy - A2-1072-A (9110173N)

Item	Part No.		Description	Qty.	Spares
1	B2-1245-A		PAWL TENSION BRACKET	1	N
2	C4-0526-A		GEAR IDLER SHAFT	2	N
3	C5-1065-A		UPPER SPROCKET IDLE SHAFT	1	N
4	D1040A	9103641J	T BEARING 8mm 12 SQ	6	Y
5	E1102A	9103841S	BEARING FL 8x19x6mm	4	Y
6	F3-0046-C	9110090B	IDLE SPROCKET 15T	2	Y
7	F4156A	9104402B	GEAR 30Tx8mm 1.0M	2	Y
8	G1117A	9104686X	SPRING HEAVY PRESSURE	2	Y
9	G6028A	9104879Y	SHIM BRAKE	2	Y
15	E3505A		M4 NYLOC NUT	1	SEE FIXING KIT FOR THIS ASSEMBLY A0-0573-A (9110172M) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
16	E5071A		DOWEL PIN 3 DIA x 14mm	1	
17	E5073A		CIRCLIP 9.5mm 'E' TYPE	2	

4.21 - Pawl Tension Bracket Assy - A2-1072-A (9110173N)



SENSORS		
Item	**Description**	**Ref.**
S1	Wetter Down (flag)	5.12

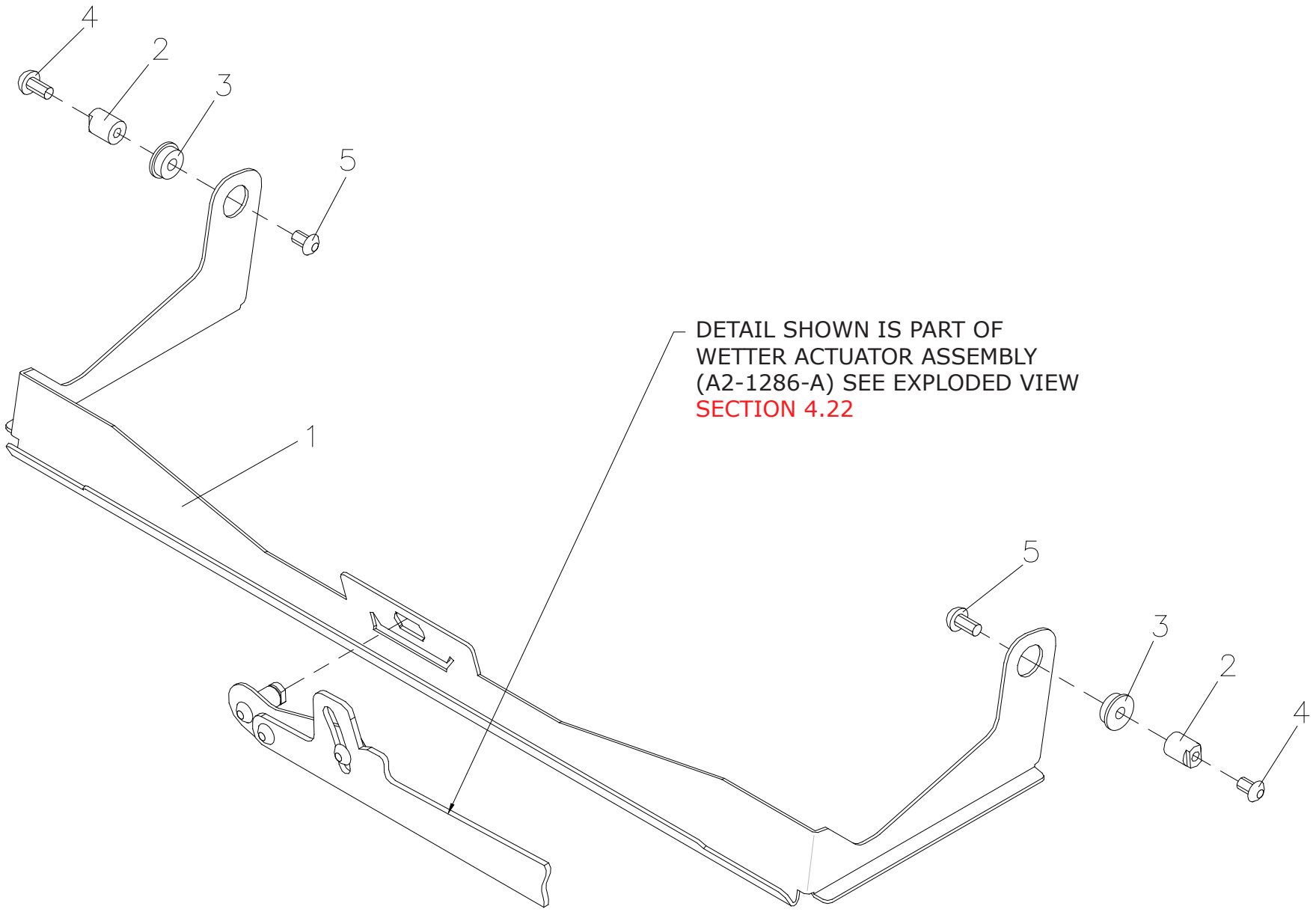
4.22 - Wetter Lever Assy - A2-1352-A (9110421W)

Item	Part No.		Description	Qty.	Spares
1	169-145	9100469E	PLASTIC RIVET 3.5mm 2.0-3.0 GRIP	2	Y
2	181-1610	9109568H	SOLENOID W/D 179-3550 XH SDT2652L628	1	Y
3	B2-1942-A		PIVOT ARM	1	N
4	B2-1943-A		WETTER SOLENOID BKT	1	N
5	B2-1944-A		WETTER LEVER	1	N
6	B3-1401-A		BEAM ADJ PLATE	1	N
7	C2-1164-A		BEARING SPIGOT	1	N
8	C2-1213-A		LEVER BEARING HOLDER	1	N
9	C2-1214-A		PIVOT BEARING HOLDER	1	N
10	C2-1215-A		BEARING SPIGOT	2	N
11	C3-0759-A		ACTUATOR ROD	1	N
12	E1-0140-A	9110065A	BEARING NEEDLE 4 IDx8x8	1	Y
13	E1-0146-A	9110385J	BEARING 5IDx7ODx10LONG	1	Y
14	E1088A	9103839Q	BEARING BALL 4x12x4 SHLD 604ZZ	4	Y
15	G1-0255-A	9110574P	SPRING SOLENOID	1	Y
16	180-776	9100753A	PCB WIDEBODY DISK SENSOR	1	Y

Fixings

20	E2-0836-A	SCREW M4x6MM TORX PAN HD ST/STL	2	SEE FIXING KIT FOR THIS ASSEMBLY A0-0612-A (9110736Z) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
21	E2-0837-A	SCREW M4x16MM TORX CSK HD	2	
22	E2-0841-A	SCREW M3x8 TORX PAN HD	4	
23	E4011A	WASHER M4 FORM A BZP	2	
24	E5099A	GROOVED PIN S80 3x18LG	1	

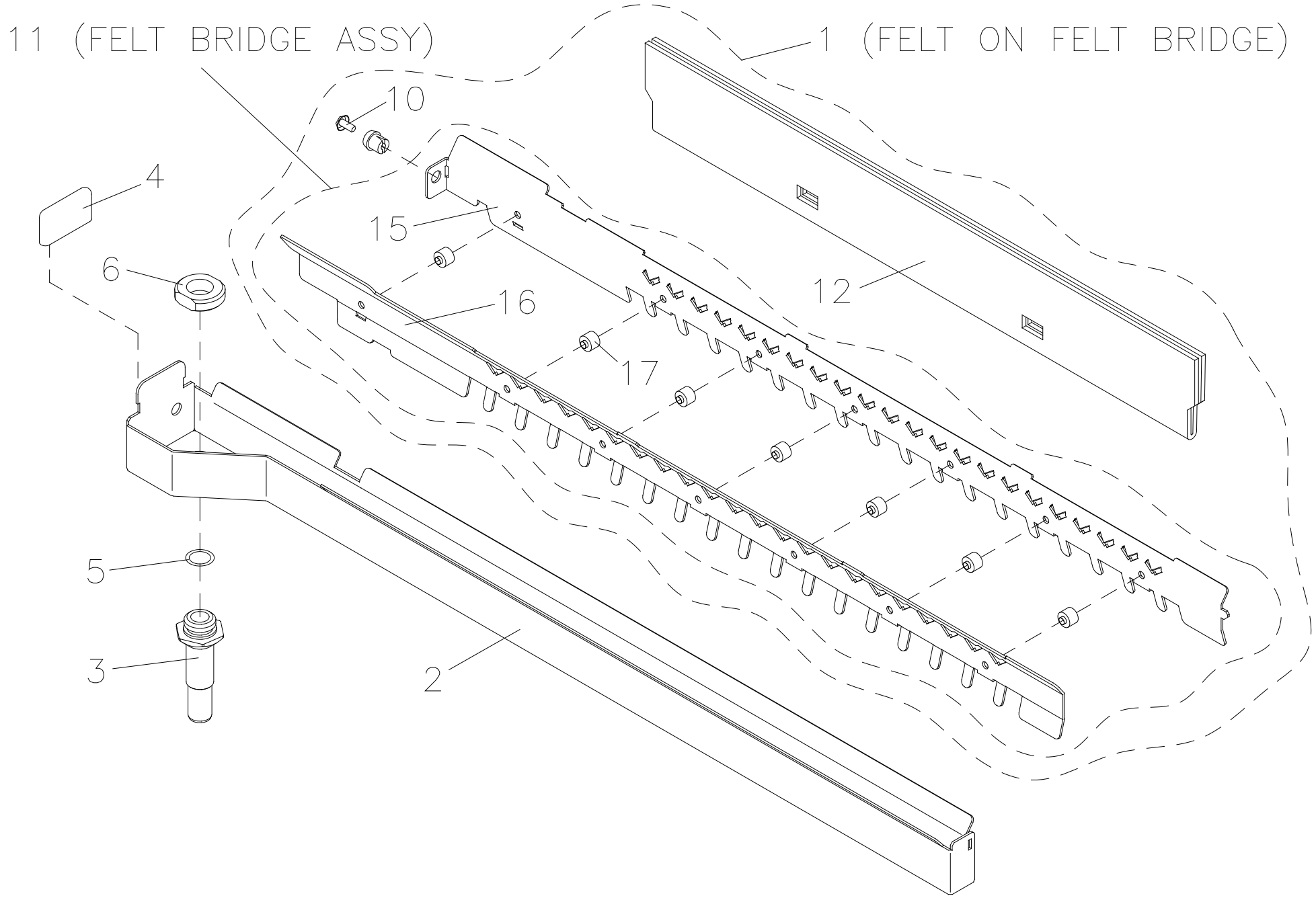
4.22 - Wetter Lever Assy - A2-1352-A (9110421W)



4.23 - Wetter Beam Assembly

Item	Part No.		Description	Qty.	Spares
1	B3-1320-A		WETTER BEAM	1	N
2	C2-1158-A	9110308D	BEAM PIVOT BASE	2	Y
3	E1077A	9103834K	FLANGED BEARING 4mm BORE	2	Y
4	E2-0836-A	9110004M	M4 x 6mm TORX PAN HD. SCREW	2	Y
5	E2826A	9108961A	M4 x 8mm TORX PAN HD. SCREW	2	Y

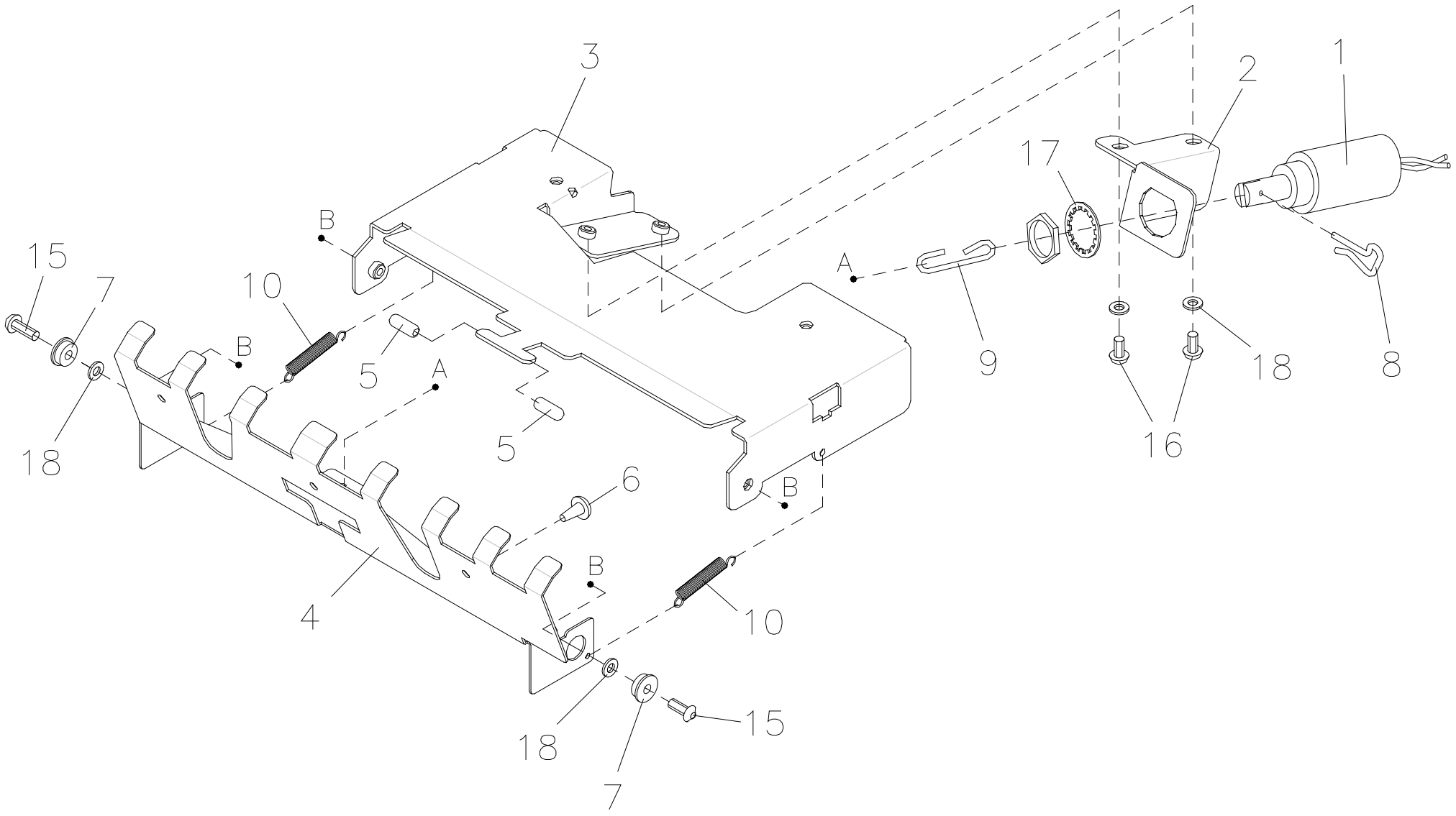
4.23 - Wetter Beam Assembly



4.24 - Wetter Tank Assy - A2-1070-A (9110168H)

Item	Part No.		Description	Qty.	Spares
	A2-1070-A	**9110168H**	**WETTER TANK ASSY**	**1**	**Y**
1	A2-1304-A		FELT ON FELT BRIDGE	1	N
2	B3-1105-A		WETTER TANK	1	N
3	C3482A		OVERFLOW PIPE	1	N
4	D0054A		CAP RECT. VINYL 23x13x1.5	1	N
5	E0235A		O RING (12.1 x 1.6)	1	N
6	P2375A		NUT M12 5mm	1	N
	A2-1304-A	**9110169J**	**FELT ON FELT BRIDGE**	**1**	**Y**
10	169-115		RIVET 5mm 2.5-3.5mm GRIP	1	N
11	B4-0448-A		FELT BRIDGE ASSEMBLY	1	N
12	G0-0181-A		WETTER FELT C4	1	N
	B4-0448-A		**FELT BRIDGE ASSY**		
15	B3-1334-A		FELT BRIDGE 2	1	N
16	B3-1335-A		FELT BRIDGE 1	1	N
17	C2-1167-A		SPACER RIVET	7	N

4.24 - Wetter Tank Assy - A2-1070-A (9110168H)



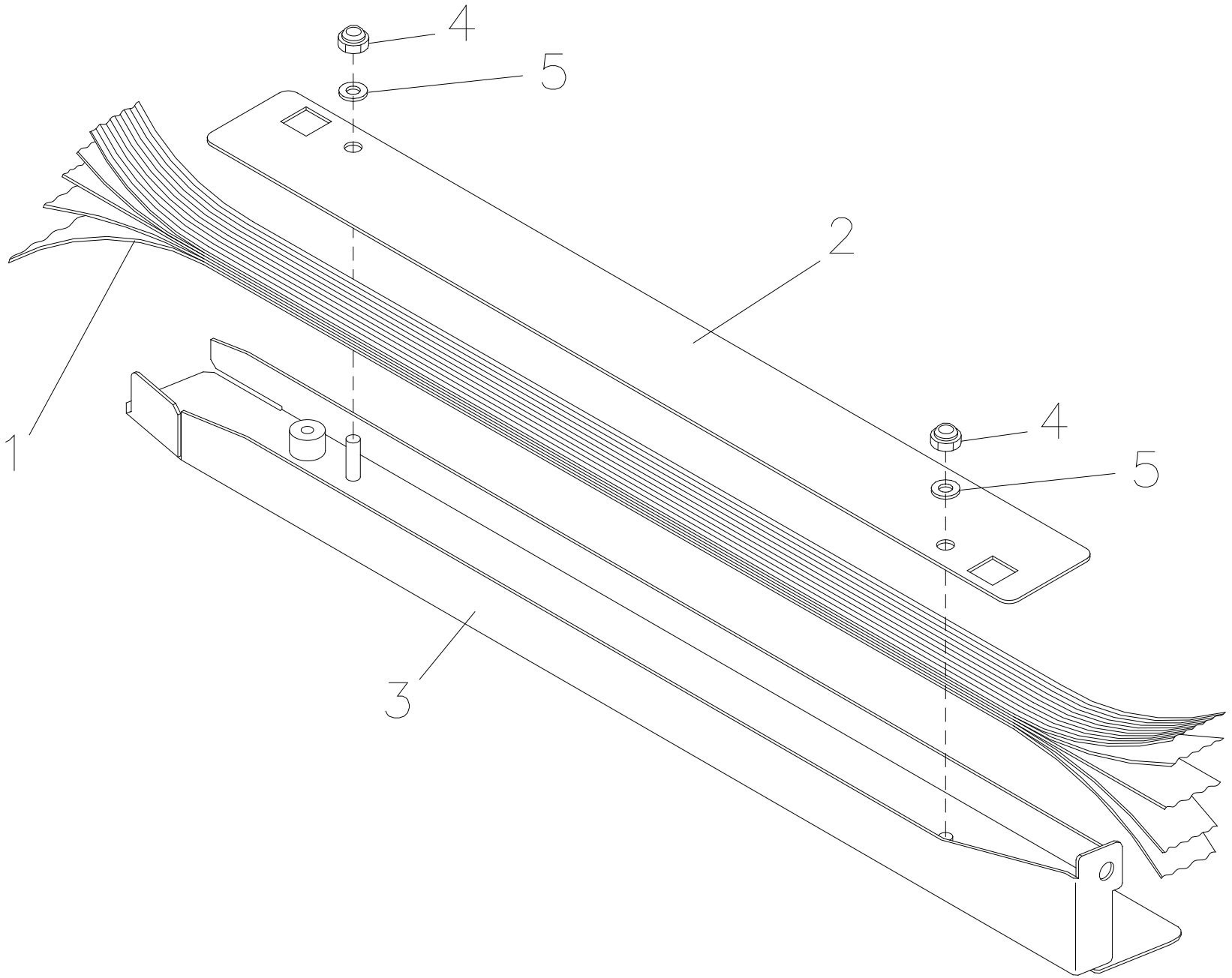
4.25 - No Seal Assembly - A2-1214-A (9110309E)

Item	Part No.		Description	Qty.	Spares
1	181-1610	9109568H	SOLENOID W/D 179-3550 XH	1	Y
2	B2-1185-A		NO SEAL SOLENOID BKT	1	N
3	B2-1518-A		NO SEAL BRACKET	1	N
4	B3-1256-A		NO SEAL COMB	1	N
5	E0204A		VINYL PROTN CAP 3.5 x 12.7	2	N
6	E0253A		INSERT FOOT 049-1000	3	N
7	E1077A	9103834K	FLANGED BEARING 4mm BORE	2	Y
8	G0167A	9105600Z	EC30 CLUTCH PIN	1	Y
9	G1-0256-A	9109575Q	SPRING LINK	1	Y
10	G1152A	9104699L	SPRING SOLENOID	2	Y

Fixings

15	E2827A		SCREW M4 x 12mm TORX PAN HD	2	SEE FIXING KIT FOR THIS ASSEMBLY A0-0580-A (9110307C) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
16	E2826A		SCREW M4 x 8mm TORX PAN HD	2	
17	E4072A		WASHER M20 INTERNAL SH/PROOF	1	
18	E4011A		WASHER M4	4	

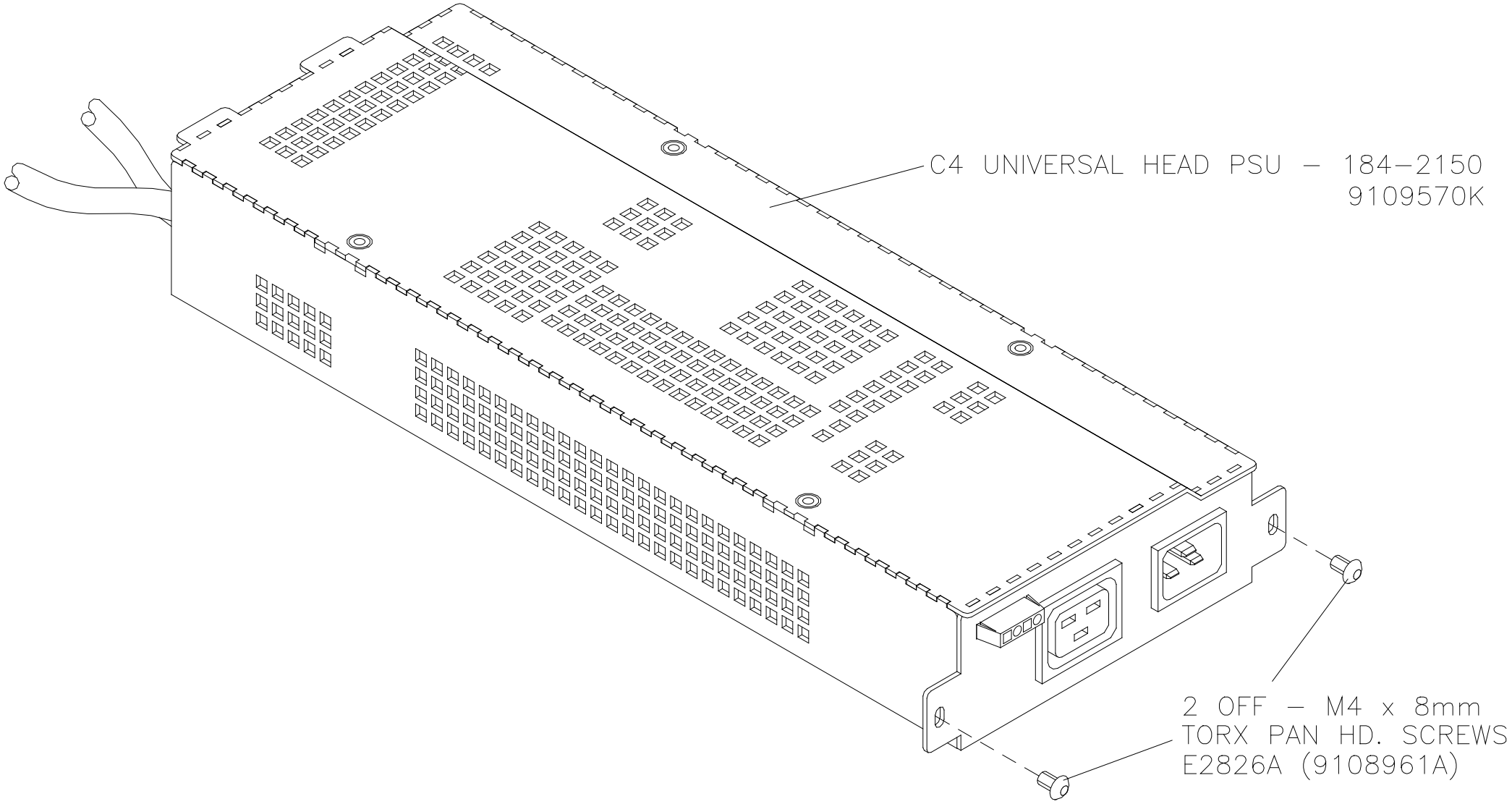
4.25 - No Seal Assembly - A2-1214-A (9110309E)



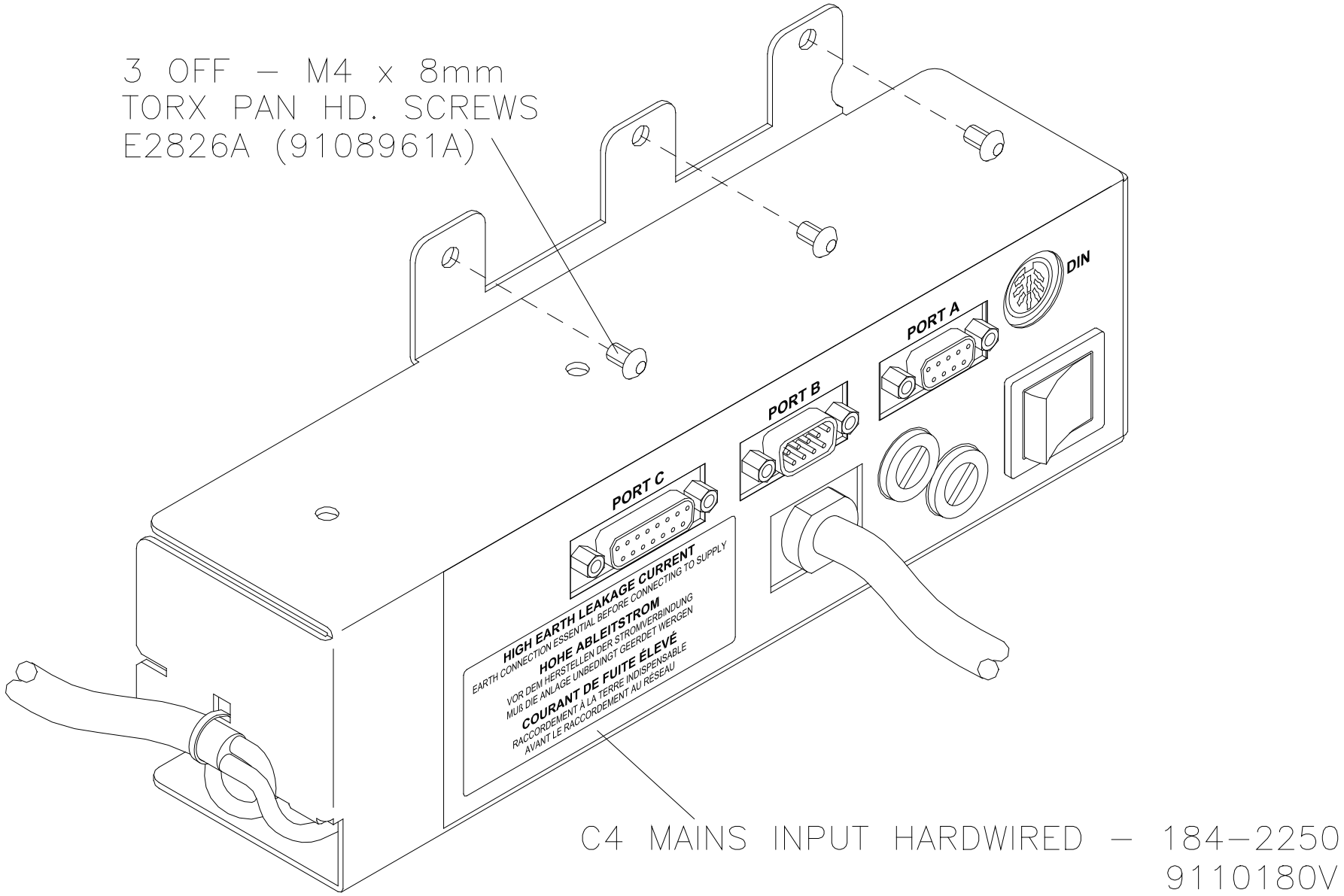
4.26 - Head Ribbon Bkt. Assy. - 184-2260 (9110179U)

Item	Part No.		Description	Qty.	Spares
1	182-8330	9109555U	LOOM C4 HEAD RIBBON SET	1	Y
2	B3-1130-A		RIBBON PLATE	1	N
3	B3-1131-A		RIBBON BRIDGE	1	N
4	E3505A	9104039Y	M4 NYLOC NUT	2	Y
5	E4011A	9104059U	M4 WASHER	2	Y

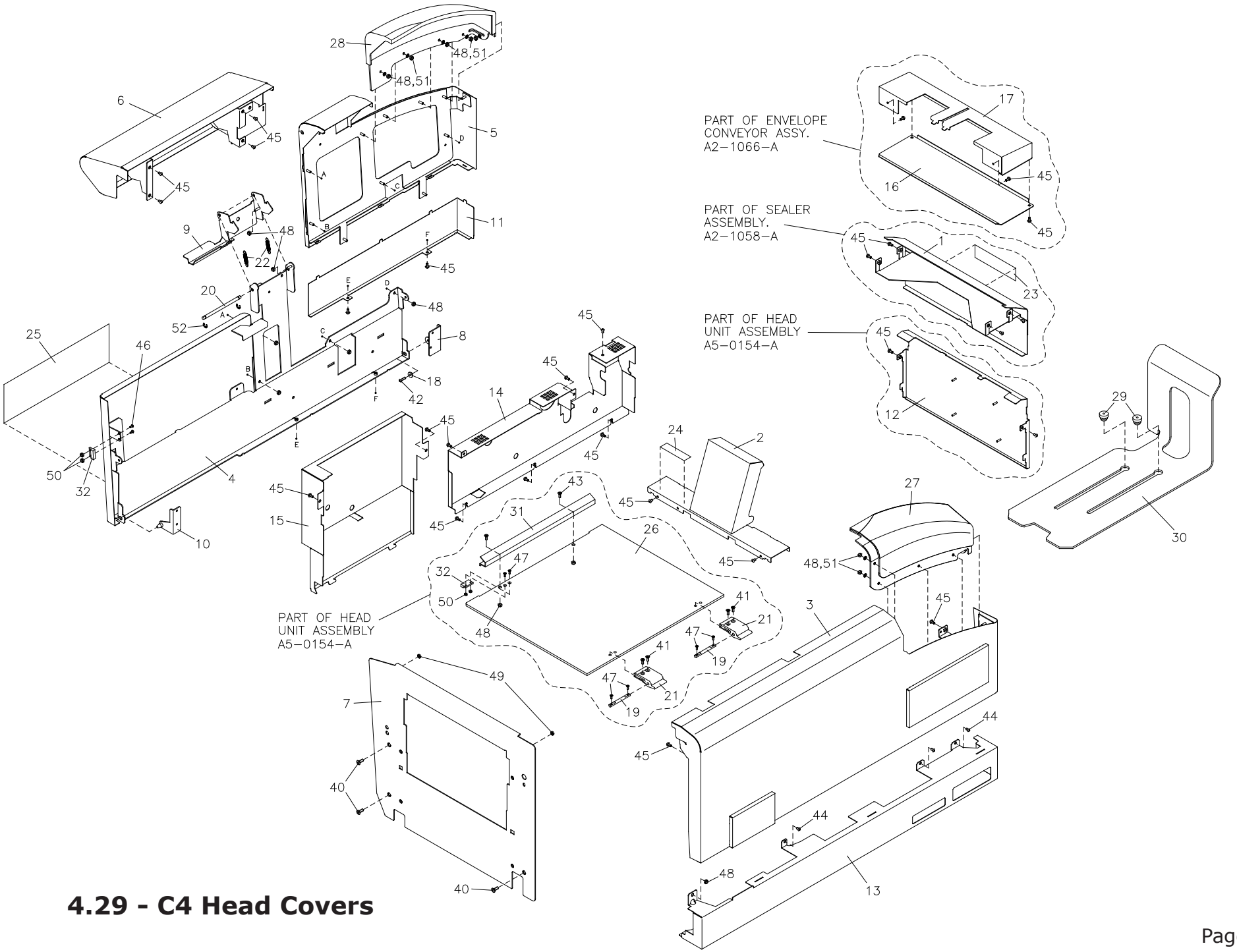
4.26 - Head Ribbon Bkt. Assy. - 184-2260 (9110179U)



4.27 - C4 Universal Head PSU - 184-2150 (9109570K)



4.28 - C4 Mains Input Hardwired - 184-2250 (9110180V)

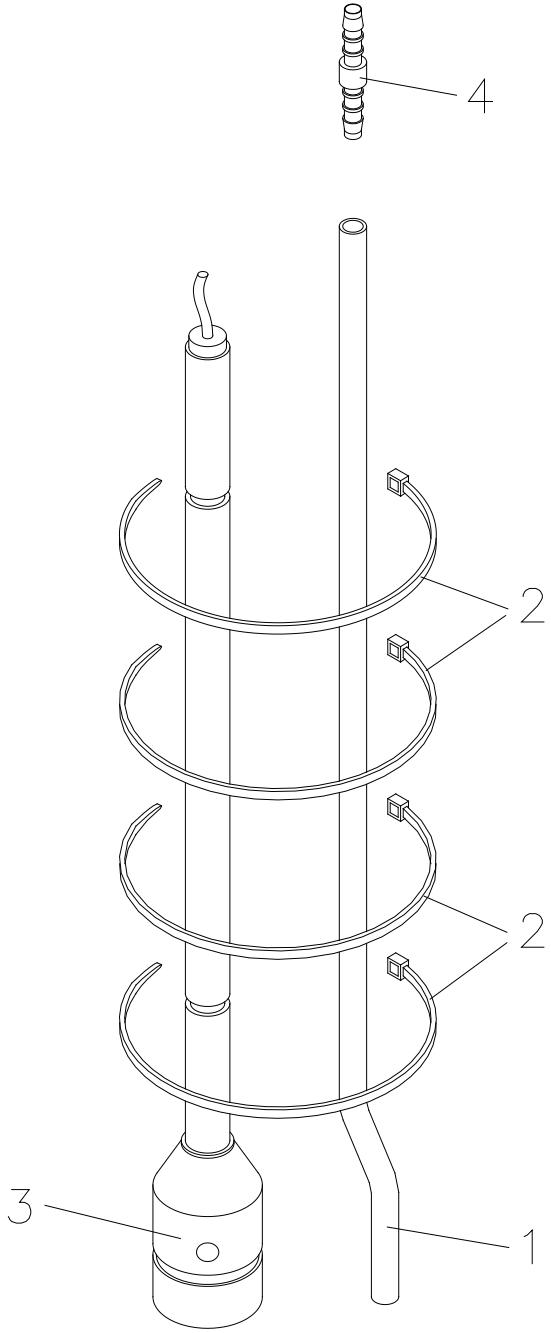

PART OF ENVELOPE CONVEYOR ASSY. A2–1066–A
PART OF SEALER ASSEMBLY. A2–1058–A
PART OF HEAD UNIT ASSEMBLY A5–0154–A
PART OF HEAD UNIT ASSEMBLY A5–0154–A

4.29 - C4 Head Covers

Item	Part No.		Description	Qty.	Spares
1	B1-0934-S	9110147L	SEALER COVER ASSY	1	Y
2	B1-0939-S	9110148M	TRACTOR INFEED COVER ASSY	1	Y
3	B1-0940-T	9110149N	HEAD SIDE COVER DRIVES	1	Y
4	B1-0942-T	9110150P	MAIN COVER LOWER ASSY	1	Y
5	B1-0943-T	9110151Q	HEAD SIDE COVER OP ASSY	1	Y
6	B1-0981-A	9110152R	UPPER COVER ASSY	1	Y
7	B2-1290-T		C4-A4 CONV PLATE	1	N
8	B2-1291-A	9110153S	COVER PIVOT BKT LH	1	Y
9	B2-1299-T	9110154T	SIDE COVER LATCH	1	Y
10	B2-1313-A	9110155U	COVER PIVOT BKT RH	1	Y
11	B3-1136-T	9110156V	HEAD COVER SKIRT OP	1	Y
12	B3-1139-S	9110157W	HEAD OUTPUT COVER	1	Y
13	B3-1142-T	9110158X	DRIVES SKIRT	1	Y
14	B3-1231-F	9110159Y	INTERNAL COVER 2	1	Y
15	B3-1233-F	9110160Z	INTERNAL COVER 1	1	Y
16	B3-1236-S	9110161A	CONVEYOR UNDER COVER	1	Y
17	B3-1238-S	9110162B	CONVEYOR END CAP	1	Y
18	C2436A	9102840Z	PIVOT BUSH	1	Y
19	C4366A	9106257J	HINGE PIN	2	Y
20	C5-1116-A	9110163C	LATCH PIVOT	1	Y
21	C6358E	9106403L	HINGE	1	Y
22	G1006A	9104609S	TRACTOR SPRING	2	Y
23	G3068A	9105609J	WARNING PLATE	1	Y
24	G3410A	9105917E	WARNING LABEL	1	Y
25	G3463A	9110164D	MAXI DATACARD NAME PLATE	1	Y
26	G7-0179-A	9110165E	VIEWING PANEL	1	Y
27	G7154A	9108948M	HEAD SIDE COVER DRIVES	1	Y
28	G7155A	9105676D	HEAD SIDE COVER OP	1	Y
29	P2230A	9110166F	TRAY SPIGOT	2	Y
30	R2211T	9105121A	CATCH TRAY	1	Y
31	R2229F		TOP COVER HANDLE	1	N
32	131-824	9100302F	SWITCH MAGNET SMALL	2	Y

Item	Part No.	Description	Qty.	Spares
Fixings				
40	E2565A	SCREW M5 x 12mm TORX CSK. HD	2	SEE FIXING KIT FOR THIS ASSEMBLY A0-0571-A (9110167G) **NOTE:** FIXINGS ARE NOT AVAILABLE INDIVIDUALLY
41	E2-0838-A	SCREW M4 x 12mm TORX CSK. HD T/T	2	
42	E2827A	SCREW M4 x 12mm TORX PAN HD	1	
43	E2834A	SCREW M4 x 10mm TORX CSK. HD	1	
44	E2829A	SCREW M4 x 8mm TORX PAN HD T/T	2	
45	E2826A	SCREW M4 x 8mm TORX PAN HD	8	
46	E2559A	SCREW M3 x 10mm PAN HD	2	
47	E2-0842-A	SCREW M3 x 8mm TORX CSK. HD	2	
48	E3505A	NUT M4 NYLOC	4	
49	E3502A	NUT M4 FULL	4	
50	E3557A	NUT M3 NYLOC	2	
51	E4048A	WASHER M4 FORM C	8	
52	E5003A	CIRCLIP 7mm ‘E’ TYPE	2	

4.29 - C4 Head Covers

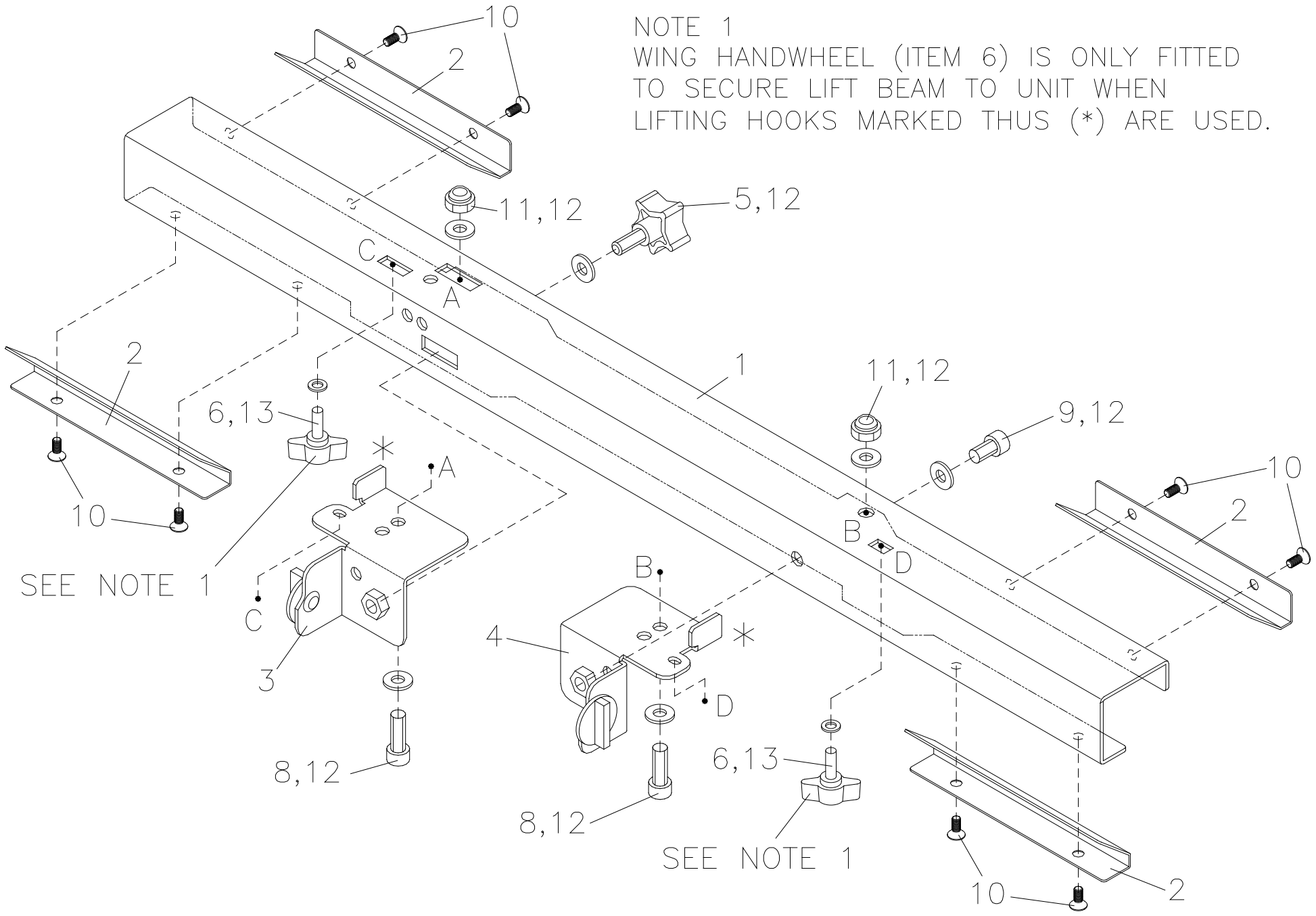


4.30 - C4 External Float Switch - A3-0421-A (9110289J)

Item	Part No.	Description	Qty.	Spares
1	125-432	TUBE CLEAR FOR PERI/PMP	0.4 M	N
2	169-107	CABLE TIE 200 x 2.6	4	N
3	184-2300	FLOAT SWITCH WAND ASSY	1	N
4	E0-0631-A	PIPE CONNECTOR 5mm I/D	1	N

NOTE: FOR REPLACEMENT, ONLY THE COMPLETE ASSY. 9110289J CAN BE ORDERED.

4.30 - C4 External Float Switch - A3-0421-A (9110289J)



4.31 - Lift Beam Assembly - A2-1520-A

1	B2-2355-H	LIFTING BEAM	1	N
2	B2-2428-G	LIFT BEAM HANDLE	4	N
3	B4-0472-H	LIFTING BKT. ASSY. LH	1	N
4	B4-0473-H	LIFTING BKT. ASSY. RH	1	N
5	E0-0654-A	LOBE KNOB BLACK M8 x 16	1	N
6	E0342A	WING HANDWHEEL	2	N

Fixings

8	E2582A	SCREW M8 SKT CAP HD x 20	2
9	E2698A	SCREW M8 SKT CAP HD x 12	1
10	E2834A	SCREW M4 x 10 TORX CSK HD	8
11	E3525A	M8 NYLOC NUT	2
12	E4044A	M8 WASHER FORM D	6
13	E4026A	M6 WASHER	2

Section 5

Electrical
and
Circuit/Wiring Diagrams

Sect.		Page
5.1	Sensors	5-2
5.1.1	Sensors List	5-2
5.1.2	Sensors Diagram, Operator Side	5-4
5.1.3	Sensors Diagram, Drive Side	5-5
5.2	Electrical Components	5-6
5.2.1	Physical Locations of Components	5-8

Circuit Diagrams

Sect.		Page
5.3	Control PCB Circuit Diagram	5-14
5.4	Processor PCB Circuit Diagram	5-17
5.5	Comms PCB Circuit Diagram	5-18
5.6	Wetter PCB Circuit Diagram	5-19
5.7	Expansion PCB Circuit Diagram	5-20
5.8	Interlock PCB Circuit Diagram	5-21
5.9	Stepper Motor PCB Circuit Diagram	5-22
5.10	R/Splitter & Disk PCBs Circuit Diagrams	5-23

Wiring Diagrams

Sect.		Page
5.11	Inserter Head Wiring Diagram	5-24
5.12	Inserter Head Splitter PCB's Wiring Diagram	5-25
5.13	Ins. Head PSU & Interlock Wiring Diagram	5-26

SECTION 5.1 SENSORS

5.1.1 Sensor List

There are three sensor types fitted to the machine:

Thro' beam (Emitter/Receiver pair)

Reflective (1 part)

Encoder (for slotted disks & flags)

All are supplied as part of a sensor & lead assembly with the attached connector. Replacement is a matter of ascertaining the sensor's PCB connector and fitting the new item in its place. In most cases, sensors connect to a ribbon splitter PCB which in turn connects to a Module or Control PCB. Wiring diagrams showing the connections can be identified below and found at the end of this section.

Physical locations of the sensors are shown on the relevant exploded view section number whose reference is shown below. The list in the exploded view will also reference to this page. The relevant wiring diagram section number is also referenced below. The part number of the cable/sensor assy. is shown, and the Splitter, Module or Stepper PCB/Connector that it connects to.

Insert Head

Sensor	P/No. (PFE)	P/No. (SAP)	Drawing	Ref	Wiring
Envelope feed RX	182-444	9101014X	4.6	(S3)	5.12
Envelope feed TX	182-443	9101013W	4.6	(S2)	5.12
Envelope deskew RX	182-445	9101015Y	4.6	(S4)	5.12
Envelope deskew TX	182-337	9100975G	4.12	(S2)	5.12
Envelope flap RX	182-439	9101009S	4.4	(S1)	5.12
Envelope flap TX	182-443	9101013W	4.6	(S1)	5.12
Envelope in hopper (reflective)	182-8310	9109571L	4.6	(S5)	5.12
Envelope conveyor (flag)	180-776	9110109W	4.8	(S1)	5.12
Collate pocket input RX	182-342	9100980M	4.4	(S2)	5.12
Collate pocket input TX	182-340	9100978K	4.13	(S1)	5.12

cont.

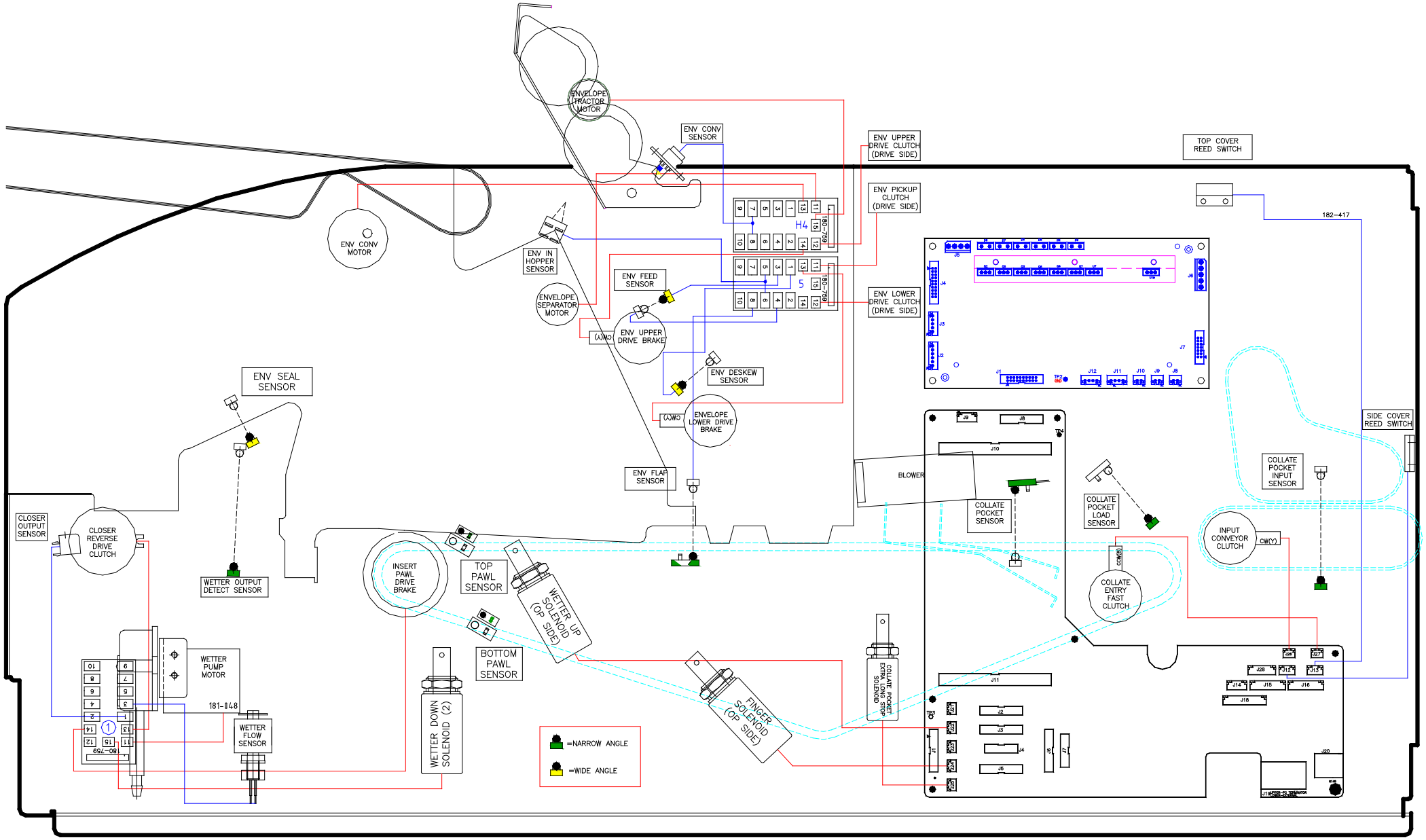
Sensor	P/No. (PFE)	P/No. (SAP)	Drawing	Ref	Wiring
Collate pocket load RX	182-339#	9100977J	4.4	(S3)	5.12
Collate pocket load RX	182-339#	9100977J	4.17	(S1)	5.12
Collate pocket load TX	182-337	9100975G	4.12	(S3)	5.12
Collate pocket RX	182-339	9100977J	4.12	(S1)	5.12
Collate pocket TX	182-337	9100975G	4.4	(S4)	5.12
Top pawl RX	182-442	9101012V	4.4	(S5)	5.12
Top pawl TX	182-443	9101013W	4.4	(S6)	5.12
Lower pawl RX	182-339	9100977J	4.4	(S7)	5.12
Lower pawl TX	182-337	9100975G	4.4	(S8)	5.12
Finger disc	180-776*	9110109W	4.18	(S2)	5.12
Finger datum (flag)	180-776*	9110109W	4.18	(S1)	5.12
Side guide disc	180-776*	9110109W	4.20	(S1)	5.12
Side guide datum (flag)	180-776*	9110109W	4.20	(S2)	5.12
Envelope seal RX	182-441	9101011V	4.4	(S9)	5.12
Envelope seal TX	182-440	9101010T	4.4	(S10)	5.12
Wetter output RX	182-345	9100983Q	4.4	(S11)	5.12
Wetter output TX	182-443	9101013W	4.4	(S12)	5.12
Wetter down (flag)	180-776*	9110109W	4.22	(S1)	5.12
Closer output (reflective)	182-693	9101087Y	4.4	(S13)	5.12
AC motor disc	180-776*	9110109W	4.15	(S1)	5.12
Hybrid motor disc	180-746*	9100741N	4.1	(S1)	5.12

* Sensor PCB only, detachable from cable.

Sensor shown in both drawings

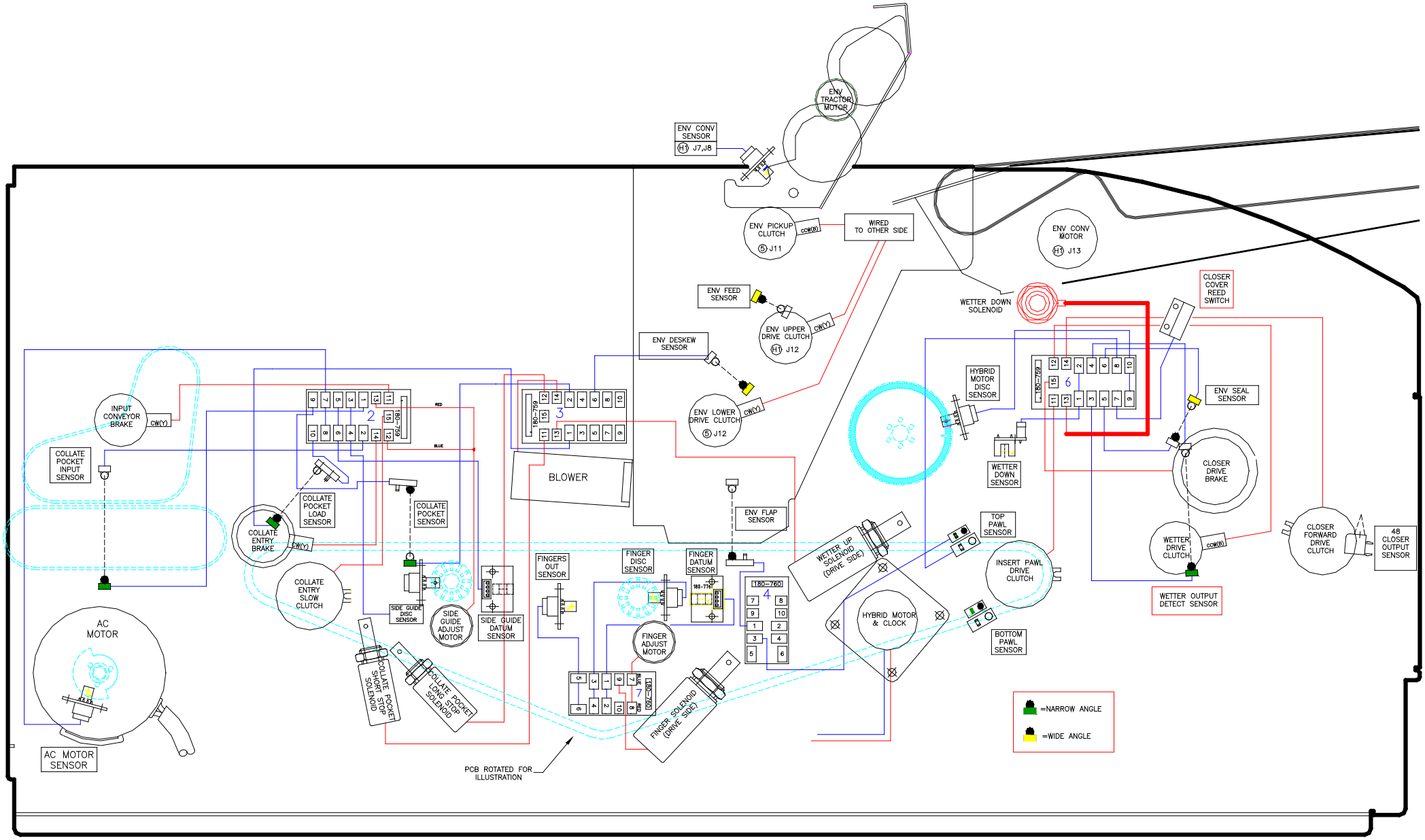
For diagrams of sensor locations, see following page.

5.1.2 Sensor diagram - operator side



For drive side, see following page

5.1.3 Sensor diagram - drive side



For operator side, see previous page

SECTION 5.2 ELECTRICAL COMPONENTS

Electrical components on the 200/300 include PCBs, motors, clutches, brakes, solenoids etc. The relevant exploded view and wiring diagram for each component is indicated in the list below.

See also section 5.2 for pictorial illustration of the physical locations of key components on the drive and operator chassis sides.

Insert Head

Component	P/N (PFE)	P/N (SAP)	Drawing	Wiring
Motors				
Main drive motor assy. (230V)	A2-1057-A	9110112Z	4.15	5.13
Main drive motor assy. (115V)	A2-1056-A	9110111Y	4.15	5.13
Motor W/D 179-093 Hybrid	181-050	9100779C	4.1	5.11
Motor W/D Pump 24V	181-0890	9110257A	4.3	5.12
Motor W/D 179-802 Fingers	181-070	9100788M	4.18	5.12
Motor W/D 179-802 Side Guide	181-070	9100788M	4.20	5.12
Motor W/D 179-802 SM Env. Sep.	181-0850	9108955U	4.7	5.12
Motor W/D 179-056 Env. Conv.	181-0870	9109558X	4.10	5.12
Motor W/D 179-802 Env. Tract.	181-0810	9110054P	4.8	5.12
Motor W/D 24V Blower SM	181-1630	9109557W	4.12	5.12
Solenoids				
Solenoid W/D 179-3450 Short	181-1600	9109569J	4.2	5.12
Solenoid W/D 179-3450 Long	181-1600	9109569J	4.2	5.12
Solenoid W/D 179-3450 Ex. Long	181-1600	9109569J	4.3	5.11
Solenoid W/D 179-3550 Finger Op	181-1610	9109568H	4.19	5.11
Solenoid W/D 179-3550 Finger Dr	181-1610	9109568H	4.18	5.12
Solenoid W/D 179-3550 Finger Mid	181-1610	9109568H	4.18	5.12
Solenoid W/D 179-3550 Wetter	181-1610	9109568H	4.22	5.12

cont.

Component	P/N (PFE)	P/N (SAP)	Drawing	Wiring
Clutches & Brakes				
Closer reverse drive clutch	181-128	9100807G	4.3	5.12
Closer reverse drive brake	181-129	9100808H	4.1	5.12
Closer forward drive clutch	181-128	9100807G	4.1	5.12
Insert pawl track drive clutch	181-128	9100807G	4.1	5.12
Insert pawl track drive brake	181-129	9100808H	4.3	5.12
Collate pocket entry slow clutch	181-128	9100807G	4.2	5.12
Collate entry fast clutch	179-110	9108383Y	4.3	5.11
Collate entry brake	179-109	9108382X	4.2	5.12
Input conveyor clutch	179-109	9108382X	4.3	5.11
Input conveyor brake	179-109	9108382X	4.2	5.12
Envelope pick-up clutch	179-109	9108382X	4.6	5.12
Envelope upper drive clutch	179-109	9108382X	4.6	5.12
Envelope upper drive brake	179-109	9108382X	4.6	5.12
Envelope lower drive clutch	179-110	9108383Y	4.6	5.12
Envelope lower drive brake	179-109	9108382X	4.6	5.12
Wetter output drive clutch	179-110	9108383Y	4.1	5.12
PCBs				
PCB Assy C4 Control	180-8360	9109914T	4.3	5.11
PCB Assy C4 Processor	180-720	9100723U	4.3	5.11
PCB Assy C4 Expansion	180-8300	9108643U	4.3	5.11
PCB Assy Brainless Dongle	180-8320	9109590F	4.3	5.11
PCB Assy Env. Wetter	180-702	9100715L	4.3	5.12

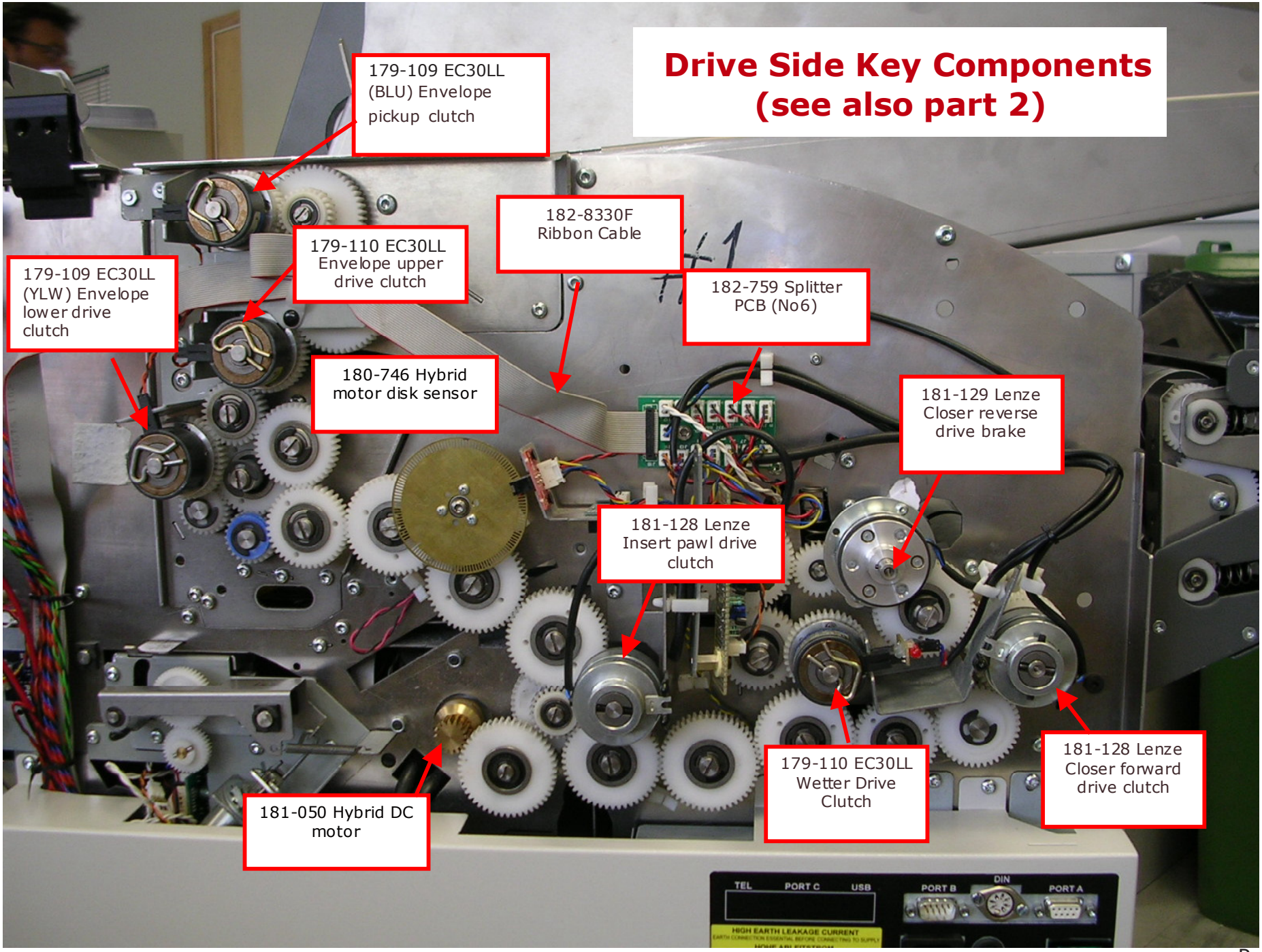
cont.

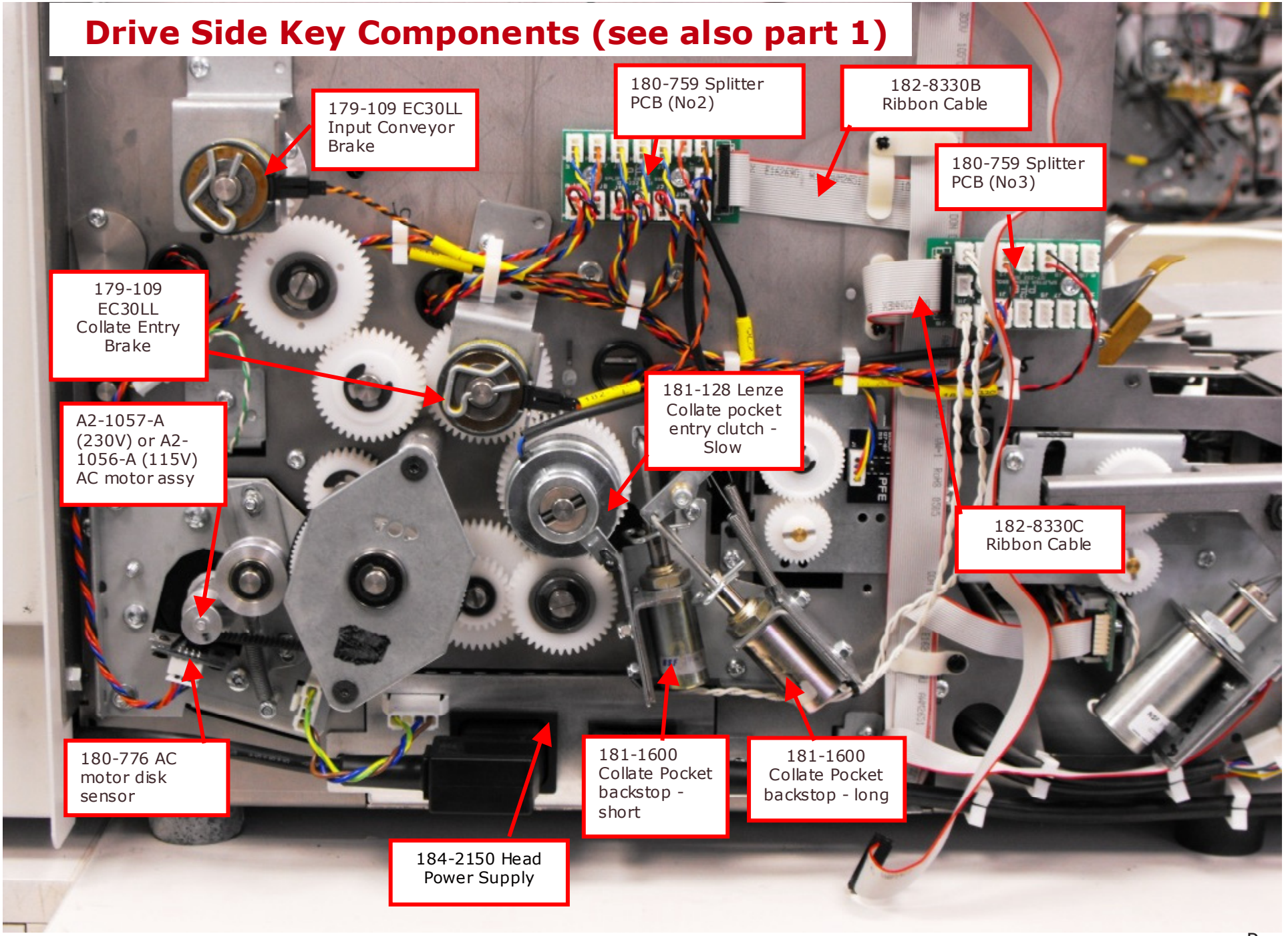
Component	P/N (PFE)	P/N (SAP)	Drawing	Wiring
PCB Splitter 1	180-759	9100744R	4.3	5.12
PCB Splitter 2	180-759	9100744R	4.2	5.12
PCB Splitter 3	180-759	9100744R	4.2	5.12
PCB Splitter 4	180-760	9100745S	4.4	5.12
PCB Splitter 5	180-759	9100744R	4.6	5.12
PCB Splitter 6	180-759	9100744R	4.1	5.12
PCB Splitter 7	180-760	9100745S	4.18	5.12
PCB Splitter E4	180-759	9100744R	4.6	5.12
Switches				
Top cover reed switch	182-417	9105287Y	4.3	5.11
Side cover reed switch	182-418	9105294F	4.3	5.11
Closer cover reed switch	182-494	9101032R	4.1	5.12
Power Supply Unit				
C4 Universal Head PSU	184-2150	9109570K	4.25	5.11
C4 Mains Input Hardwired	184-2250	9110180V	4.26	5.11

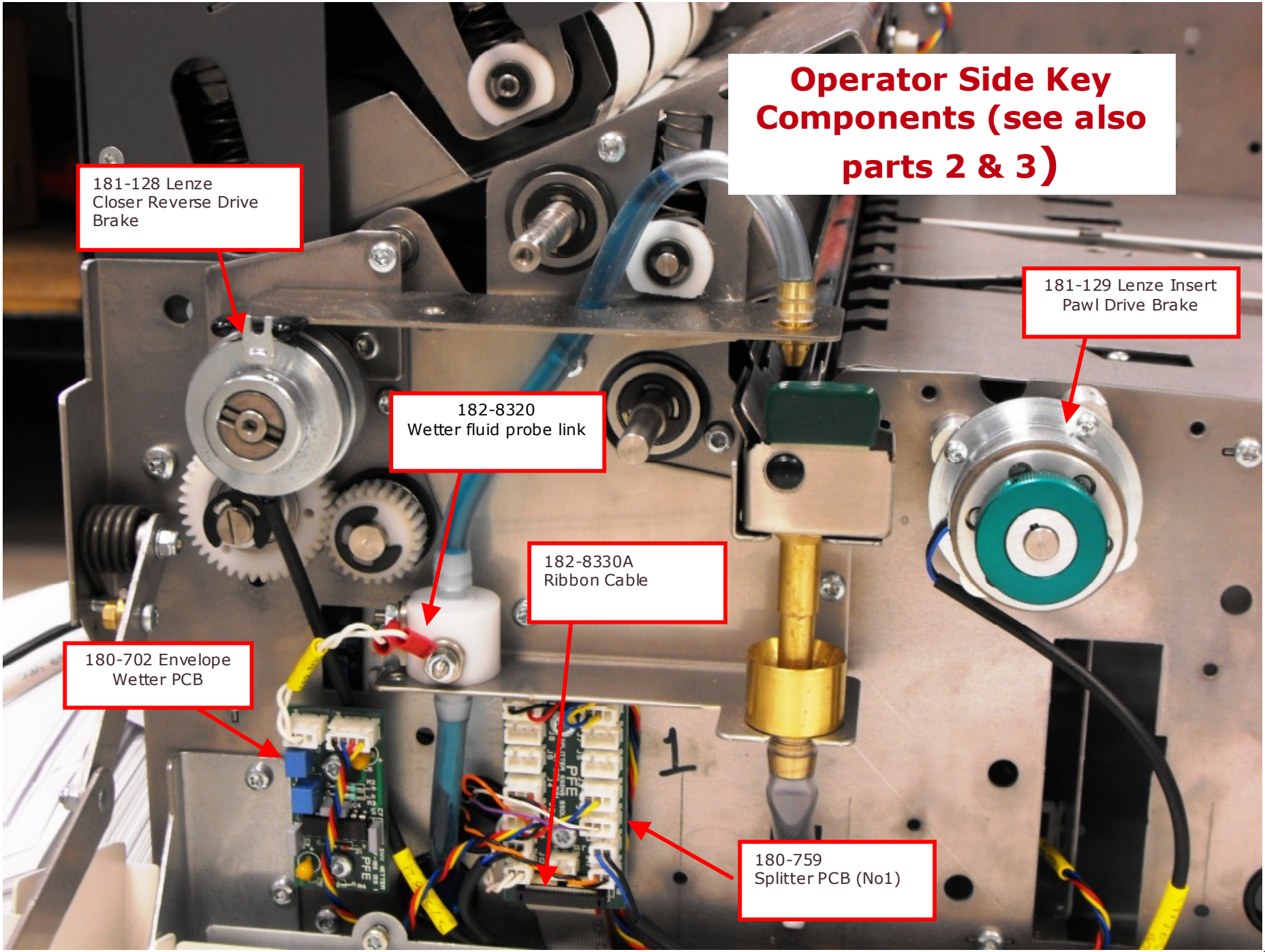
SECTION 5.2.1 ELECTRICAL COMPONENTS PHYSICAL LOCATIONS

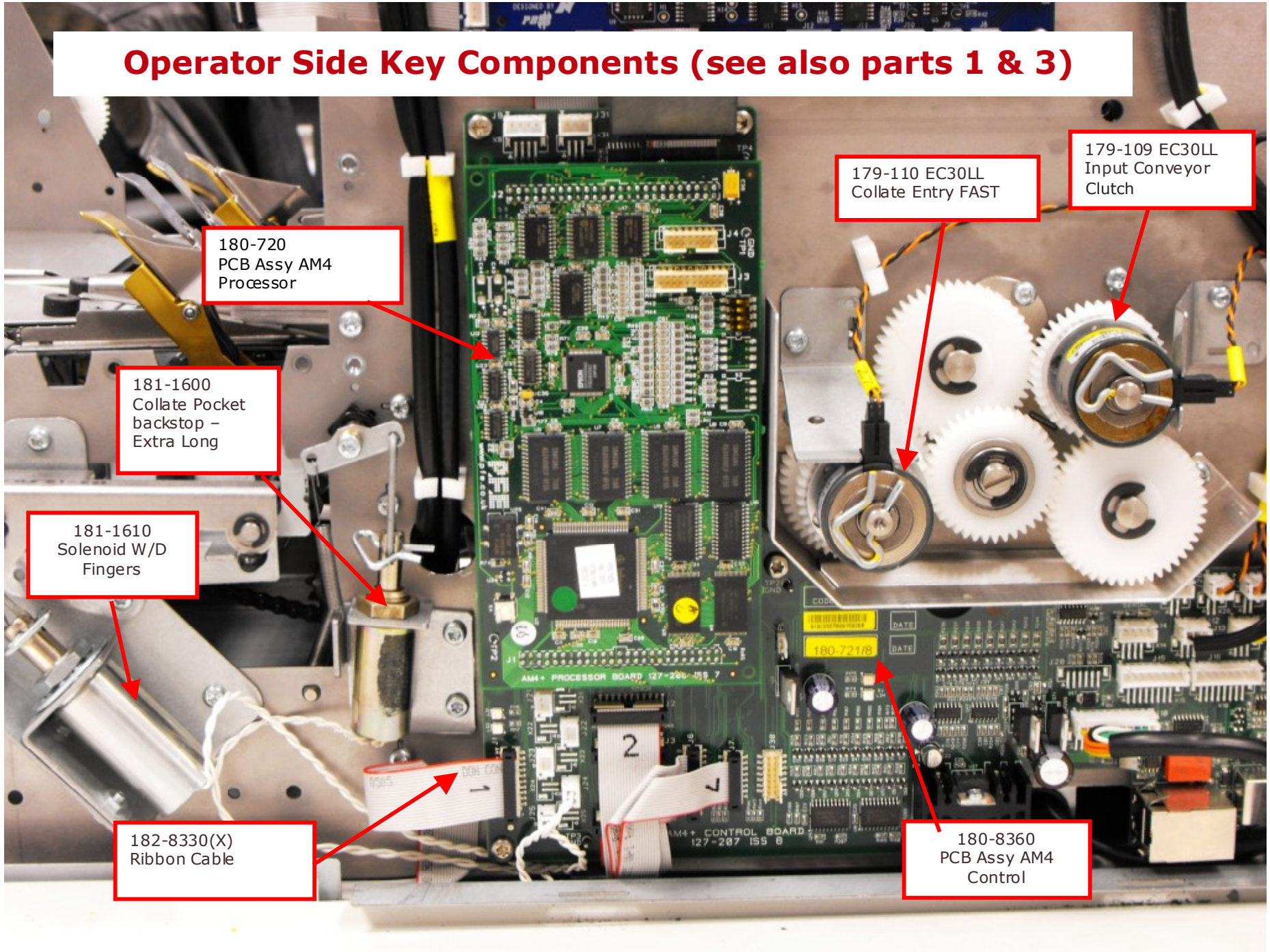
The following pages show clutches, brakes, solenoids, PCBs, ribbon cables etc. that are external to the chassis sides, both drive and operator.

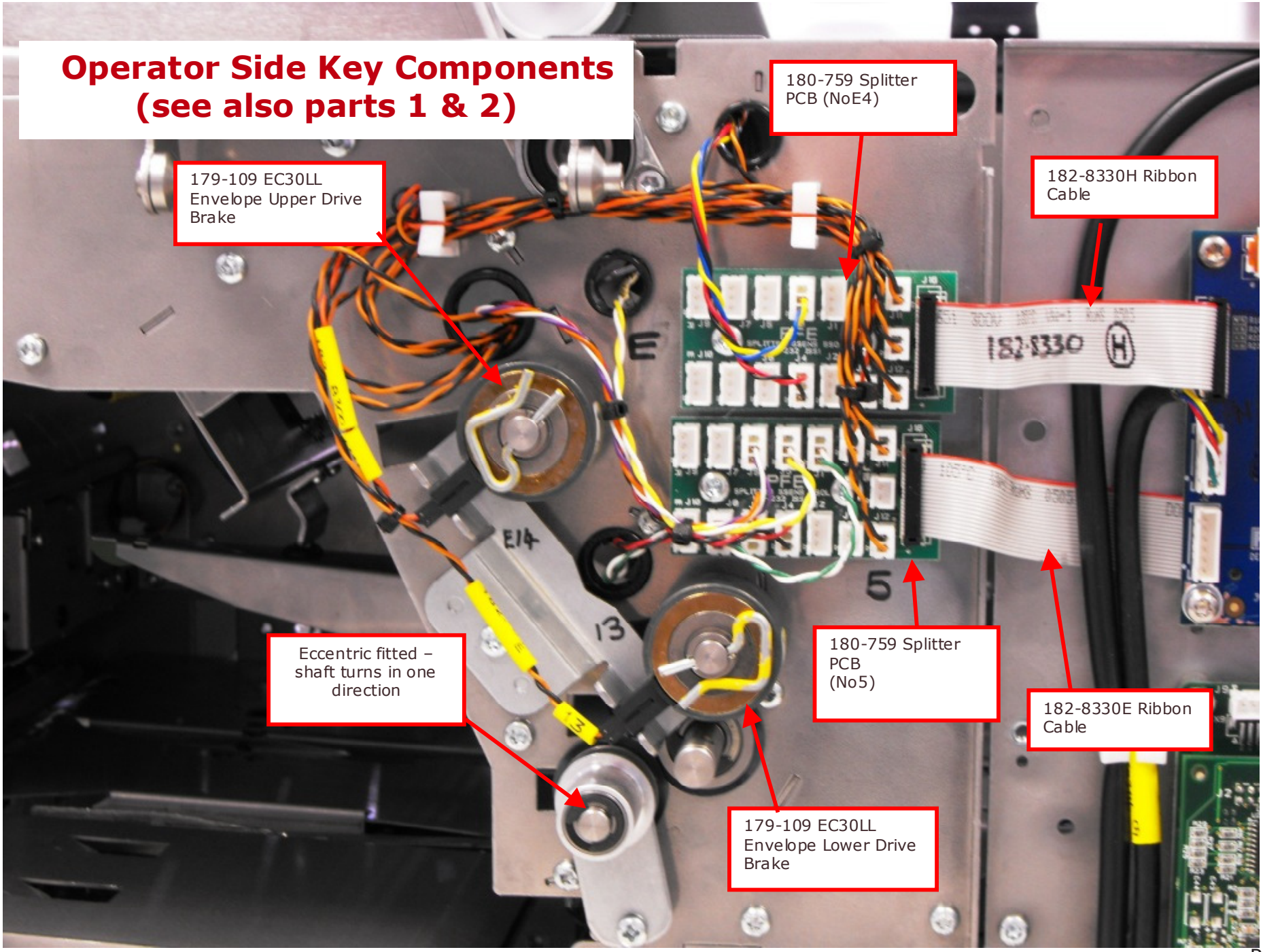
Note that other components are internal and can be found from the references in the previous section.

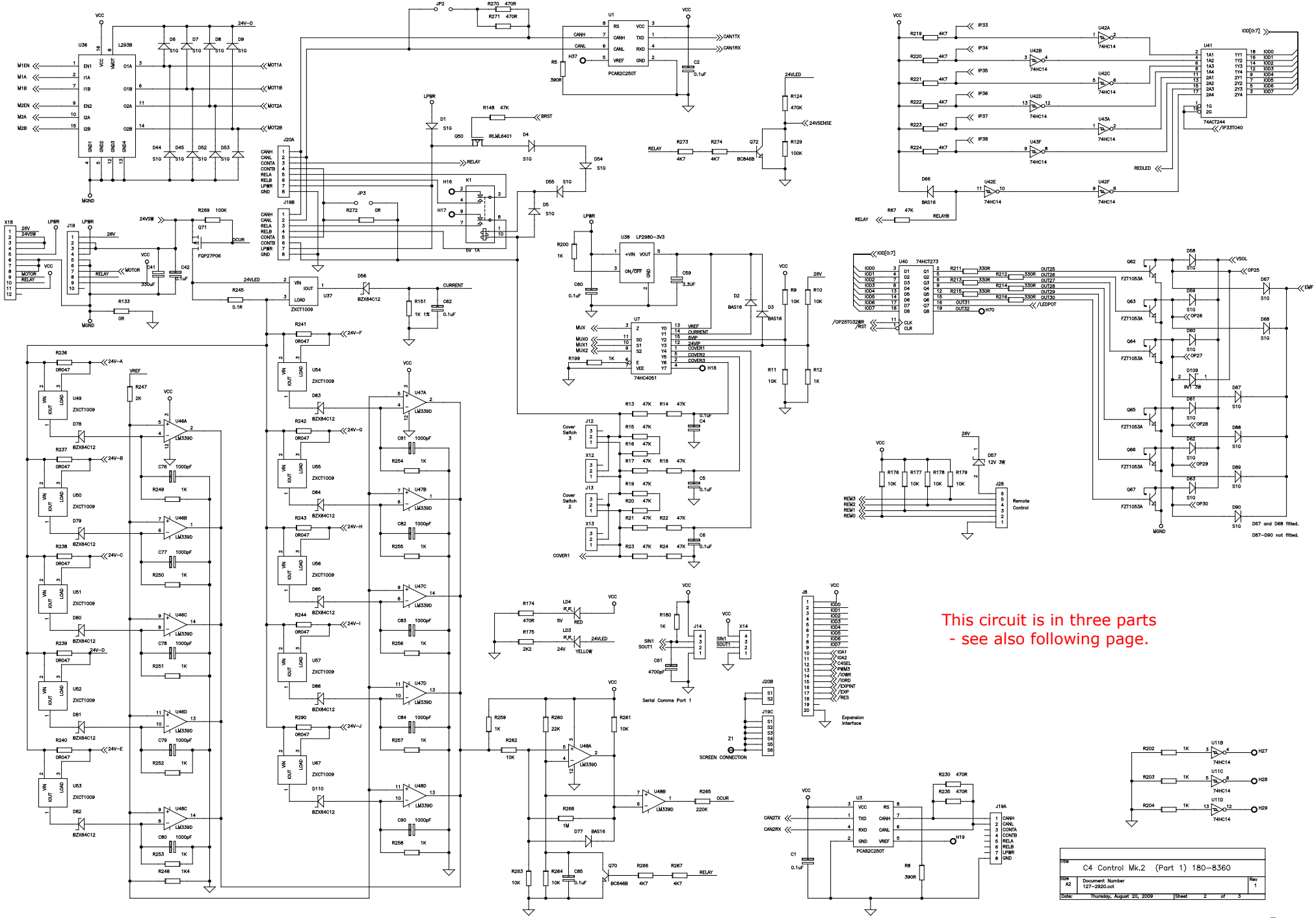

Drive Side Key Components
(see also part 2)
179-109 EC30LL
(BLU) Envelope
pickup clutch
179-110 EC30LL
Envelope upper
drive clutch
179-109 EC30LL
(YLW) Envelope
lower drive
clutch
182-8330F
Ribbon Cable
182-759 Splitter
PCB (No6)
180-746 Hybrid
motor disk sensor
181-129 Lenze
Closer reverse
drive brake
181-128 Lenze
Insert pawl drive
clutch
181-050 Hybrid DC
motor
179-110 EC30LL
Wetter Drive
Clutch
181-128 Lenze
Closer forward
drive clutch
TEL
PORT C
USB
PORT B
DIN
PORT A
HIGH EARTH LEAKAGE CURRENT

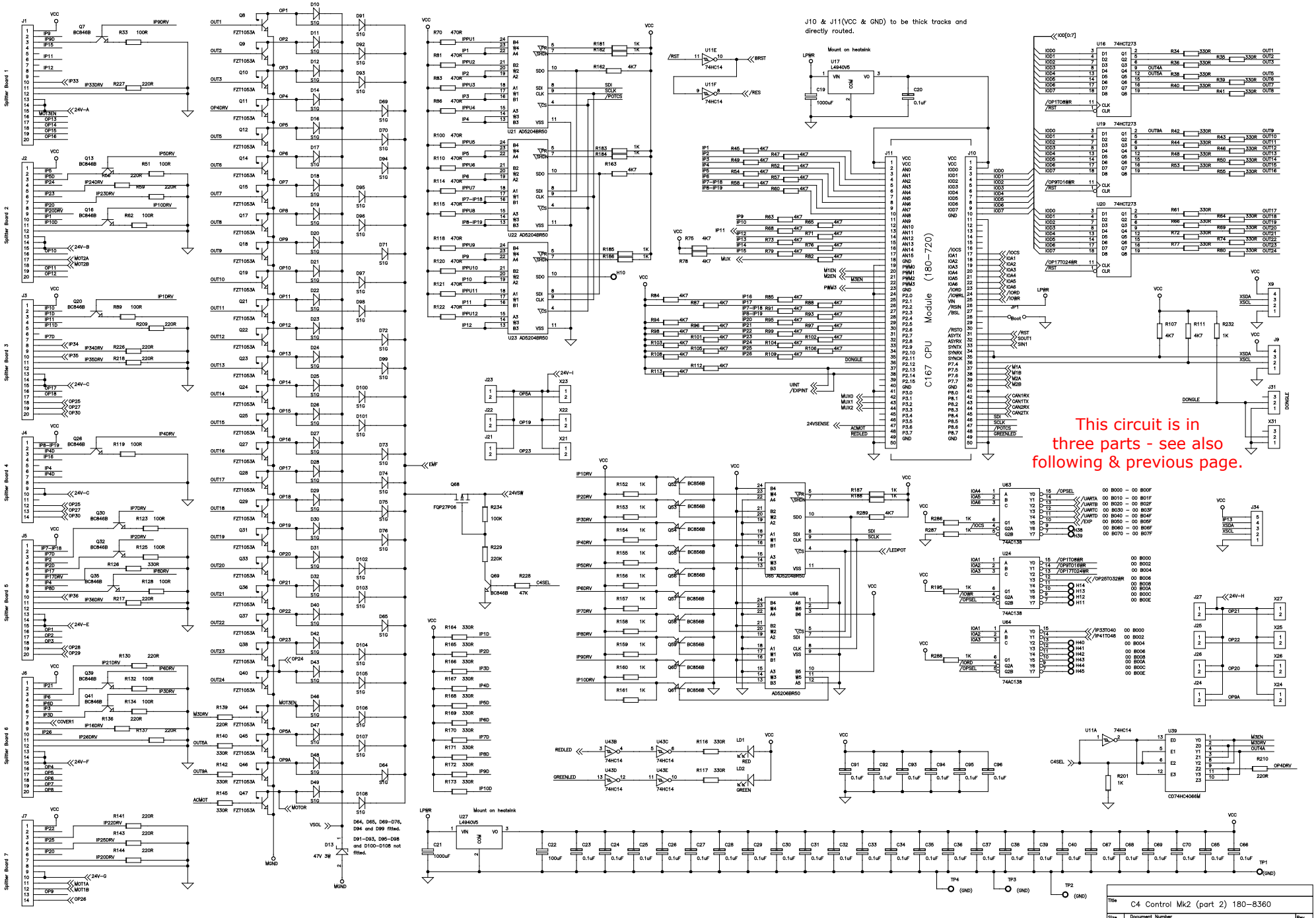

Drive Side Key Components (see also part 1)
179-109 EC30LL Input Conveyor Brake
180-759 Splitter PCB (No2)
182-8330B Ribbon Cable
180-759 Splitter PCB (No3)
179-109 EC30LL Collate Entry Brake
181-128 Lenze Collate pocket entry clutch - Slow
A2-1057-A (230V) or A2-1056-A (115V) AC motor assy
182-8330C Ribbon Cable
180-776 AC motor disk sensor
184-2150 Head Power Supply
181-1600 Collate Pocket backstop - short
181-1600 Collate Pocket backstop - long

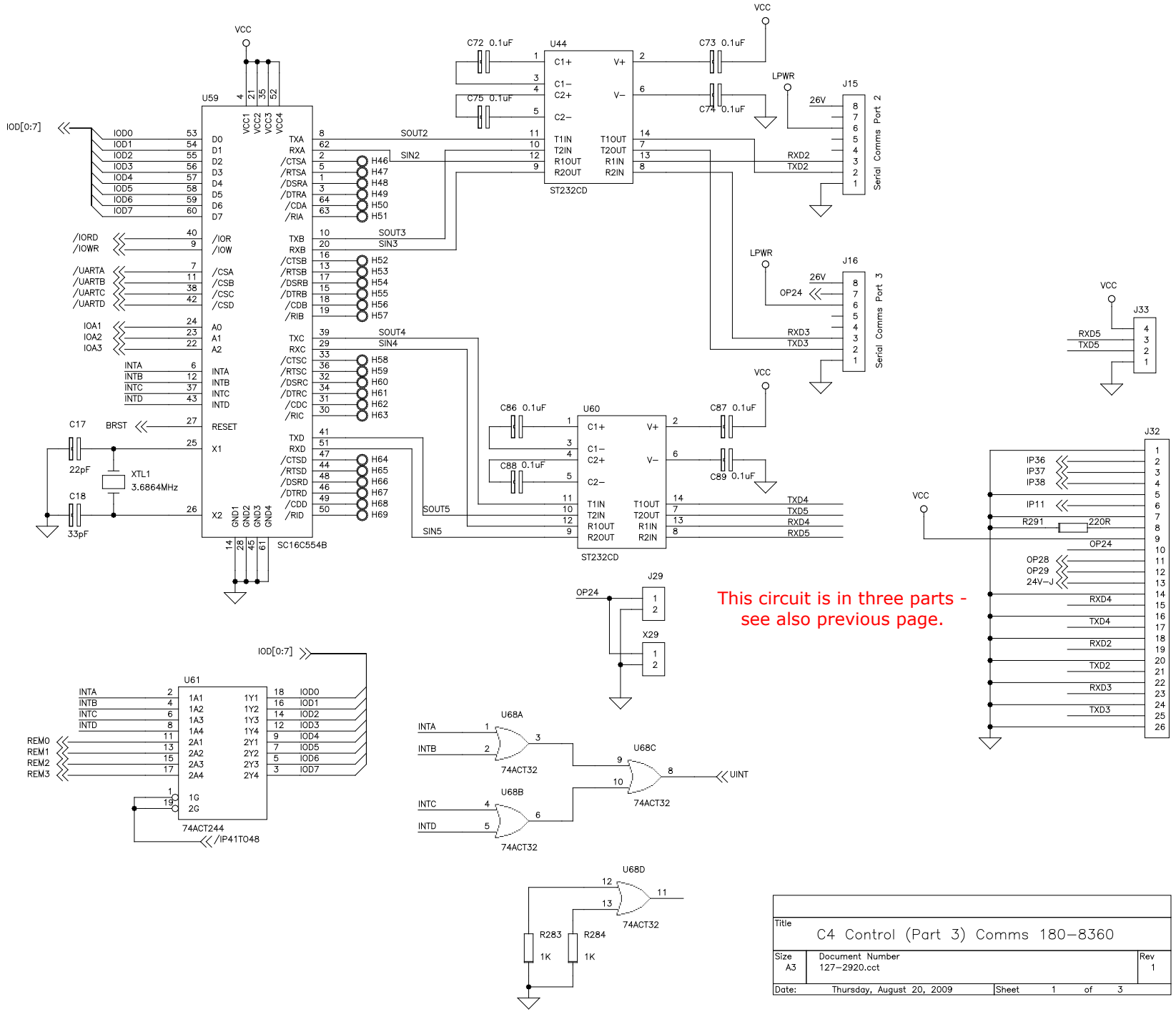

Operator Side Key Components (see also parts 2 & 3)
181-128 Lenze Closer Reverse Drive Brake
181-129 Lenze Insert Pawl Drive Brake
182-8320 Wetter fluid probe link
182-8330A Ribbon Cable
180-702 Envelope Wetter PCB
180-759 Splitter PCB (No1)

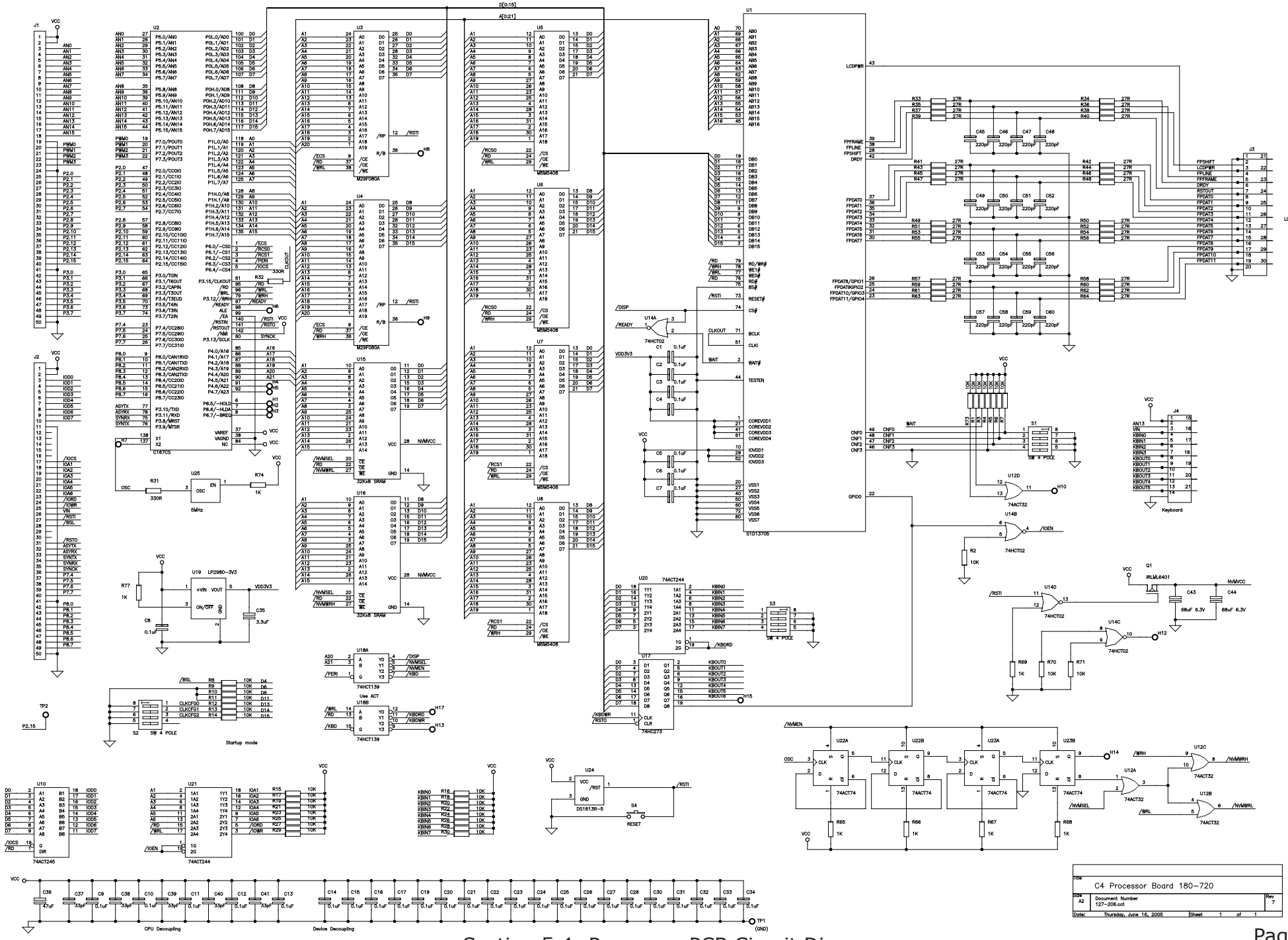

Operator Side Key Components (see also parts 1 & 3)
180-720
PCB Assy AM4
Processor
181-1600
Collate Pocket
backstop –
Extra Long
181-1610
Solenoid W/D
Fingers
182-8330(X)
Ribbon Cable
179-110 EC30LL
Collate Entry FAST
179-109 EC30LL
Input Conveyor
Clutch
180-8360
PCB Assy AM4
Control

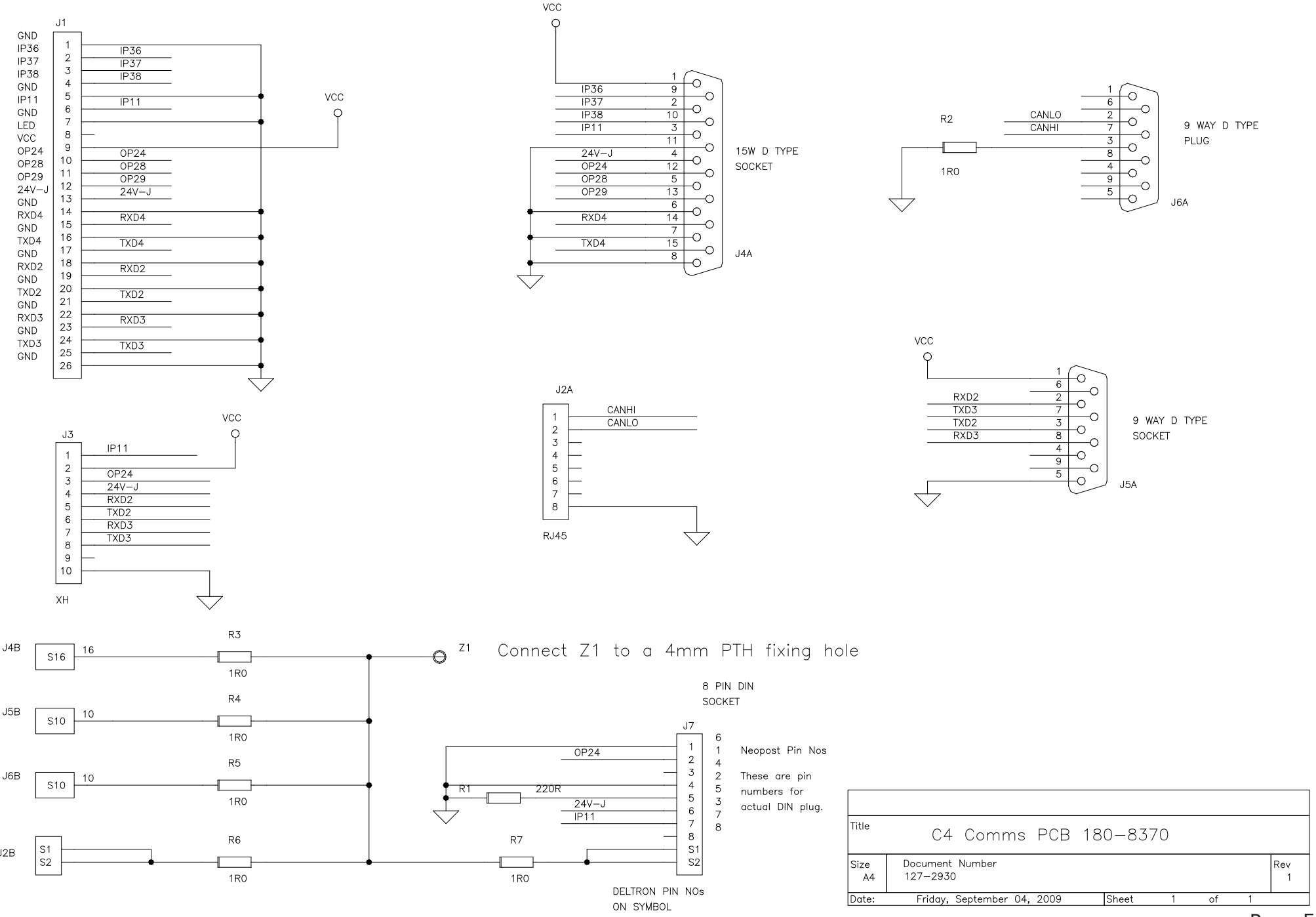

Operator Side Key Components
(see also parts 1 & 2)
180-759 Splitter PCB (NoE4)
179-109 EC30LL Envelope Upper Drive Brake
182-8330H Ribbon Cable
182-8330 (H)
E14
13
5
Eccentric fitted – shaft turns in one direction
180-759 Splitter PCB (No5)
182-8330E Ribbon Cable
179-109 EC30LL Envelope Lower Drive Brake

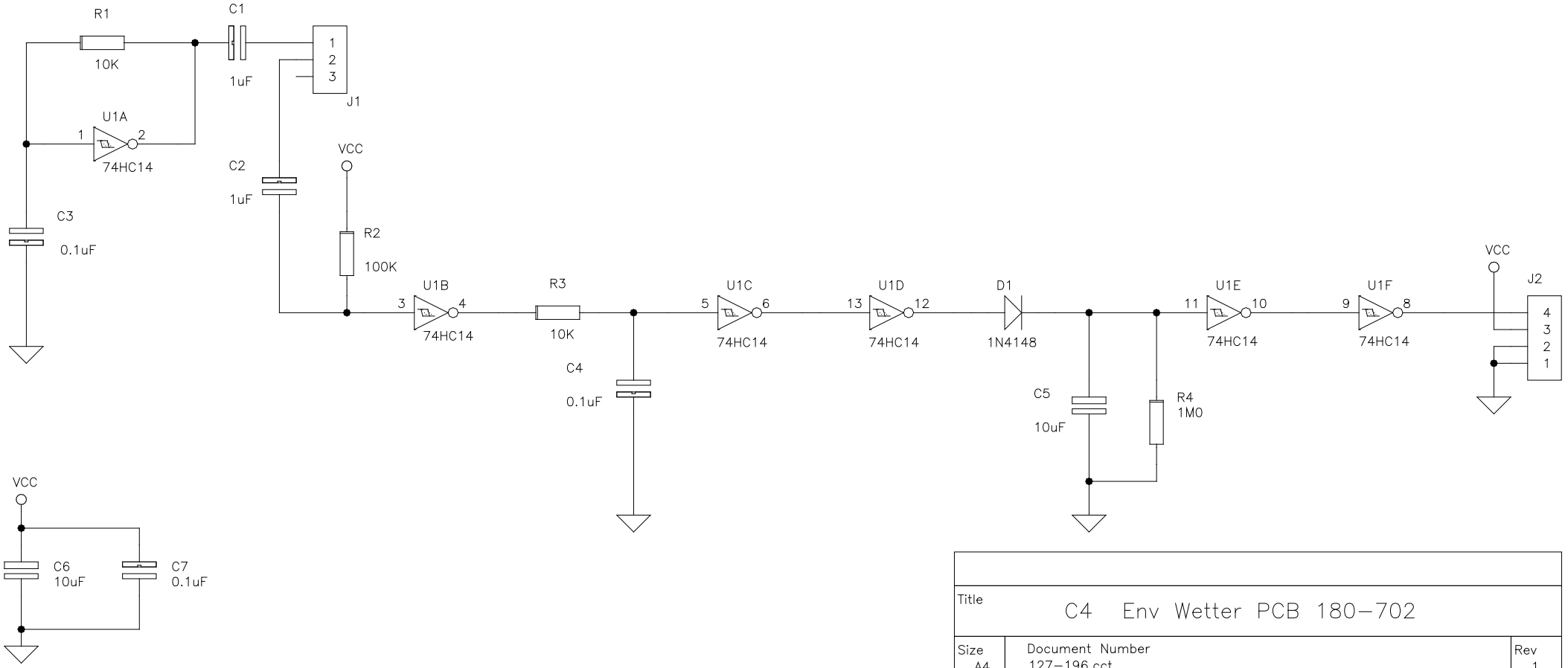

This circuit is in three parts
- see also following page.
C4 Control Mk.2 (Part 1) 180-8360
Document Number 127-2920.oct
Thursday, August 20, 2009
Sheet 2 of 3
D67 and D68 fitted.
D87-D90 not fitted.


This circuit is in three parts - see also following & previous page.
J10 & J11(VCC & GND) to be thick tracks and directly routed.
C167 CPU Module (180-720)
C4 Control Mk2 (part 2) 180-8360
Document Number 127-2920.cct
Thursday, August 20, 2009

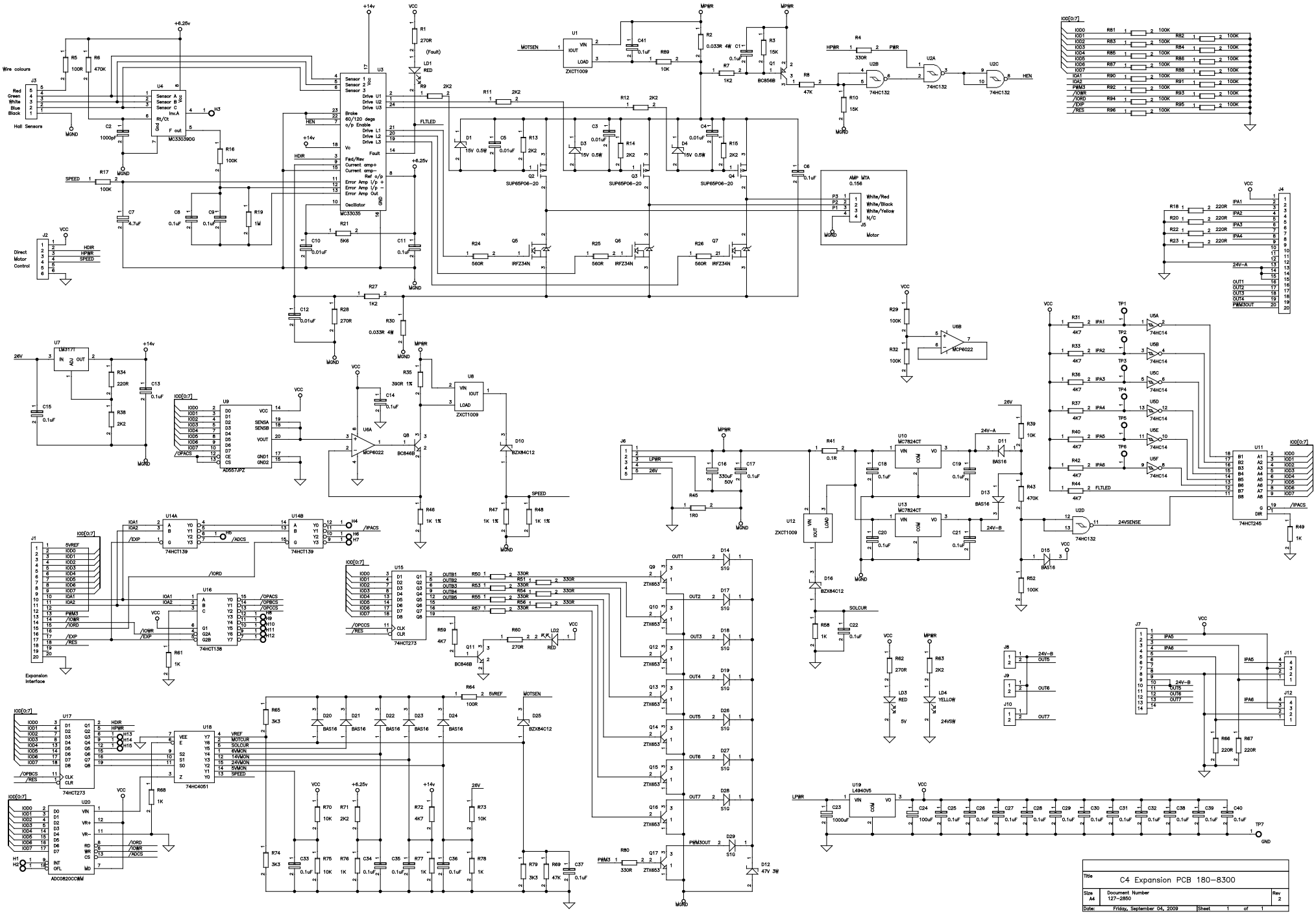

VCC
U59
SC16C554B
IOD[0:7]
/IORD
/IOWR
/UARTA
/UARTB
/UARTC
/UARTD
IOA1
IOA2
IOA3
INTA
INTB
INTC
INTD
BRST
RESET
X1
X2
C17
22pF
XTL1
3.6864MHz
C18
33pF
SOUT2
SIN2
SOUT3
SIN3
SOUT4
SIN4
SOUT5
SIN5
U44
ST232CD
C72 0.1uF
C73 0.1uF
C74 0.1uF
C75 0.1uF
LPWR
J15
Serial Comms Port 2
RXD2
TXD2
J16
Serial Comms Port 3
RXD3
TXD3
U60
C86 0.1uF
C87 0.1uF
C88 0.1uF
C89 0.1uF
TXD4
TXD5
RXD4
RXD5
J33
J32
IP36
IP37
IP38
IP11
R291
220R
OP24
OP28
OP29
24V-J
J29
X29
U61
74ACT244
/IP41T048
REM0
REM1
REM2
REM3
U68A
U68B
U68C
U68D
74ACT32
UINT
R283
R284
1K
This circuit is in three parts - see also previous page.
Title
C4 Control (Part 3) Comms 180-8360
Size A3
Document Number 127-2920.cct
Rev 1
Date: Thursday, August 20, 2009
Sheet 1 of 3

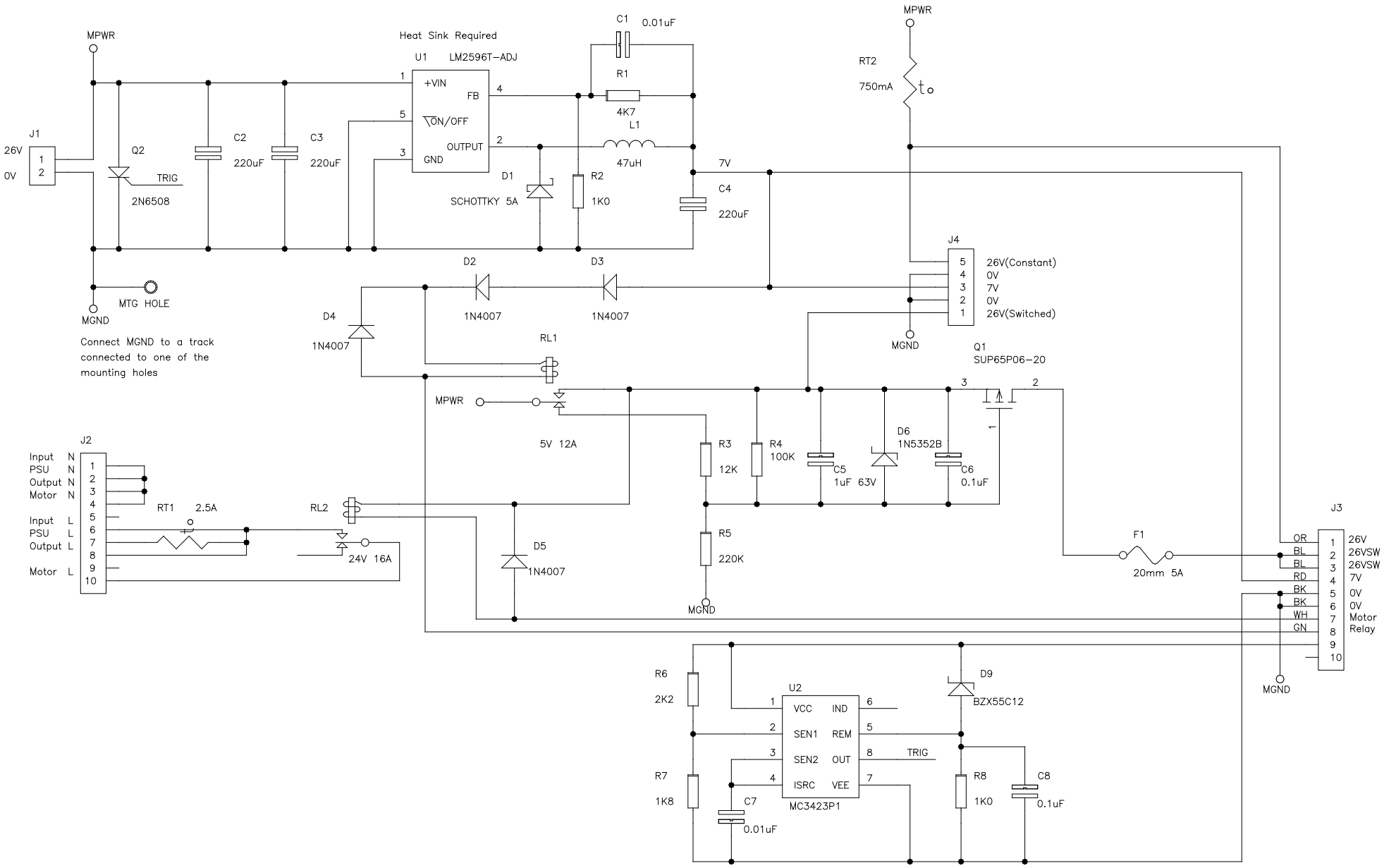

C4 Processor Board 180–720
Document Number 127–206.cct
Thursday, June 16, 2005
Rev 7
Sheet 1 of 1
LCD Output
Keyboard
Startup mode
CPU Decoupling
Device Decoupling


J1
GND 1
IP36 2
IP37 3
IP38 4
GND 5
IP11 6
GND 7
LED 8
VCC 9
OP24 10
OP28 11
OP29 12
24V–J 13
GND 14
RXD4 15
GND 16
TXD4 17
GND 18
RXD2 19
GND 20
TXD2 21
GND 22
RXD3 23
GND 24
TXD3 25
GND 26
IP36
IP37
IP38
IP11
OP24
OP28
OP29
24V–J
RXD4
TXD4
RXD2
TXD2
RXD3
TXD3
VCC
VCC
1
IP36 9
IP37 2
IP38 10
IP11 3
11
24V–J 4
OP24 12
OP28 5
OP29 13
6
RXD4 14
7
TXD4 15
8
15W D TYPE
SOCKET
J4A
R2
1R0
CANLO
CANHI
1
6
2
7
3
8
4
9
5
9 WAY D TYPE
PLUG
J6A
VCC
J3
1 IP11
2
3 OP24
4 24V–J
5 RXD2
6 TXD2
7 RXD3
8 TXD3
9
10
XH
J2A
1 CANHI
2 CANLO
3
4
5
6
7
8
RJ45
VCC
1
6
RXD2 2
TXD3 7
TXD2 3
RXD3 8
4
9
5
9 WAY D TYPE
SOCKET
J5A
J4B
S16
16
R3
1R0
Z1
Connect Z1 to a 4mm PTH fixing hole
J5B
S10
10
R4
1R0
J6B
S10
10
R5
1R0
J2B
S1
S2
R6
1R0
R7
1R0
8 PIN DIN
SOCKET
J7
1 6
2 1
3 4
4 2
5 5
6 3
7 7
8 8
S1
S2
OP24
R1
220R
24V–J
IP11
Neopost Pin Nos
These are pin
numbers for
actual DIN plug.
DELTRON PIN NOs
ON SYMBOL
Title
C4 Comms PCB 180–8370
Size
A4
Document Number
127–2930
Rev
1
Date: Friday, September 04, 2009
Sheet 1 of 1

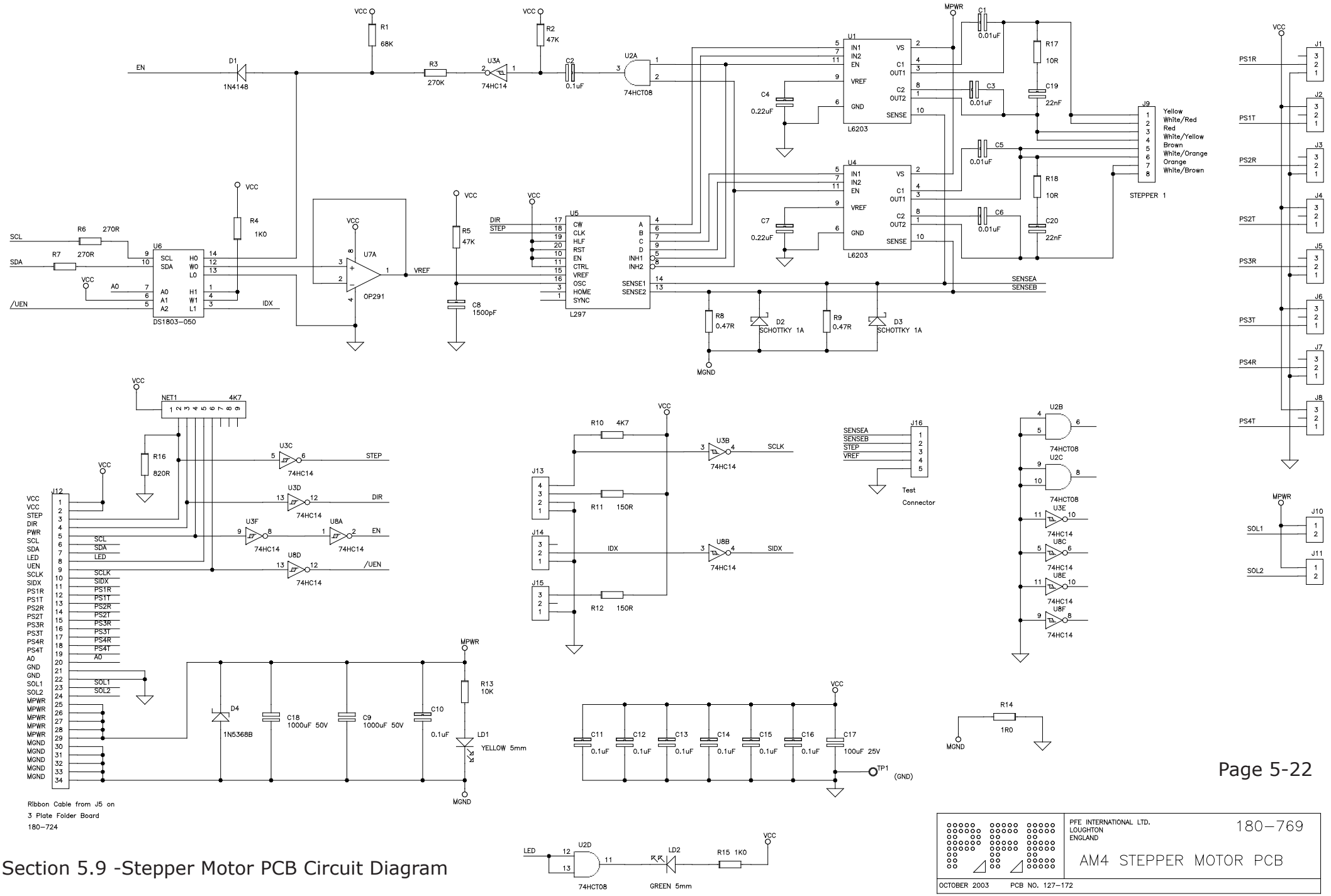


Title	C4 Env Wetter PCB 180-702	
Size A4	Document Number 127-196.cct	Rev 1
Date: Friday, September 04, 2009	Sheet 1 of 1	

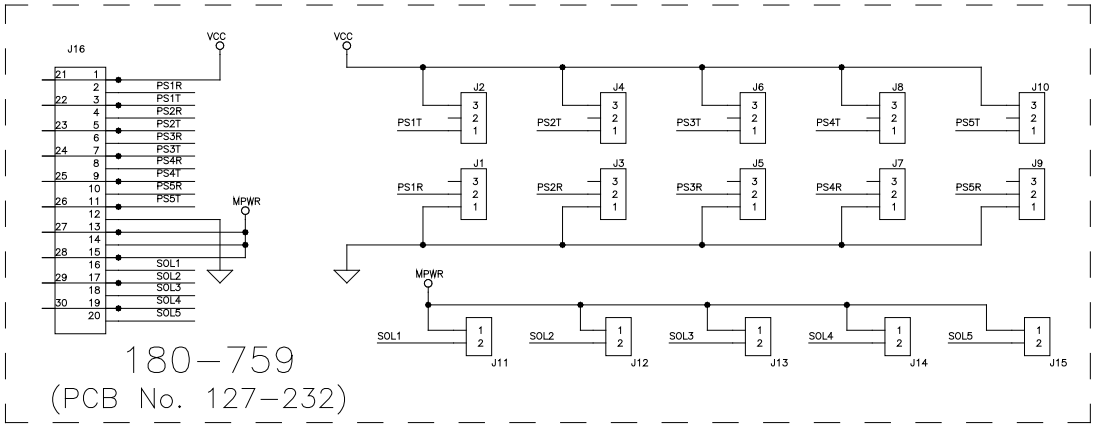

Hall Sensors
Direct Motor Control
Motor
Expansion Interface
MC33039DG
MC33035
AD557JPZ
74HCT139
74HCT138
74HCT273
74HC4051
ADC0820CCWM
74HC132
74HC14
74HCT245
ZXCT1009
MCP6022
MC7824CT
L4940V5
SUP65P06-20
IRFZ34N
BC846B
BZX84C12
BAS16
ZTX653
Title
C4 Expansion PCB 180-8300
Size A4
Document Number 127-2850
Rev 2
Date: Friday, September 04, 2009
Sheet 1 of 1



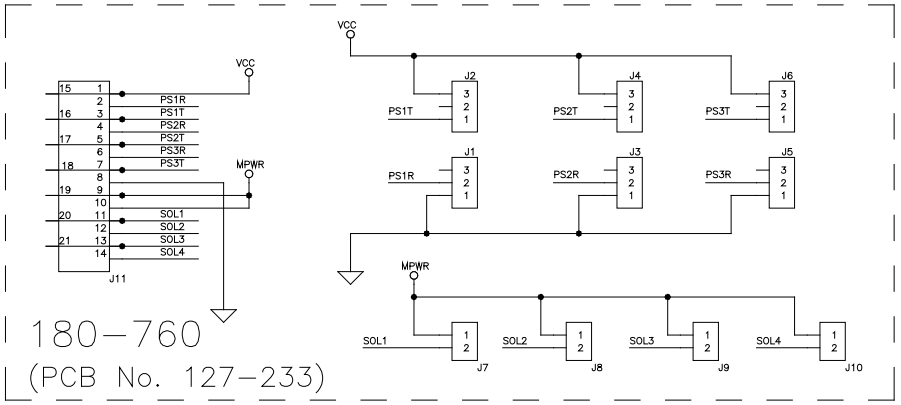
Title	C4 Interlock Board 180-8310	
Size A4	Document Number 127-2880.cct	Rev 1
Date: Monday, August 10, 2009	Sheet 1 of 1	



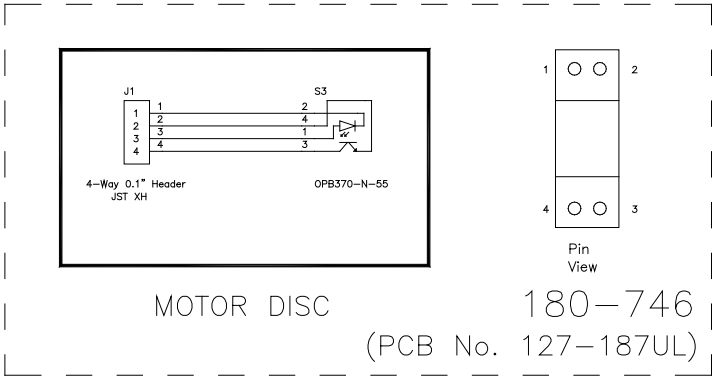
Section 5.9 -Stepper Motor PCB Circuit Diagram



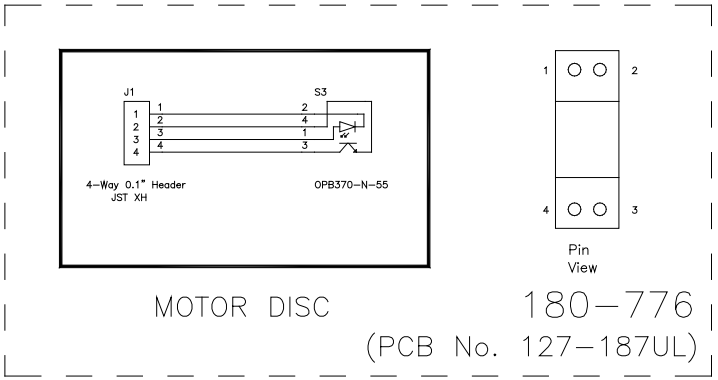
180–759
(PCB No. 127–232)



180–760
(PCB No. 127–233)



MOTOR DISC
180–746
(PCB No. 127–187UL)

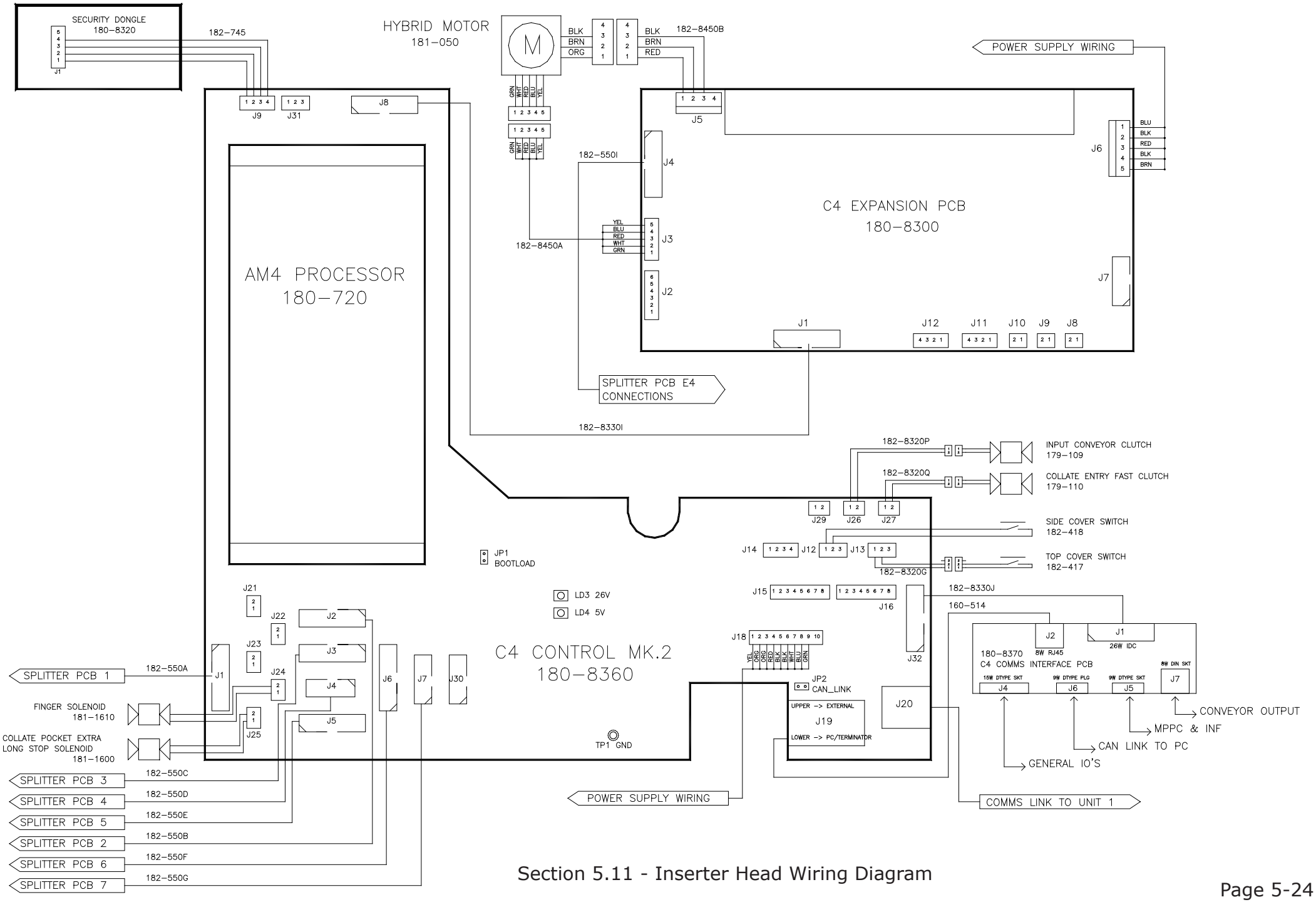


MOTOR DISC
180–776
(PCB No. 127–187UL)

PFE INTERNATIONAL LTD.
LOUGHTON
ENGLAND

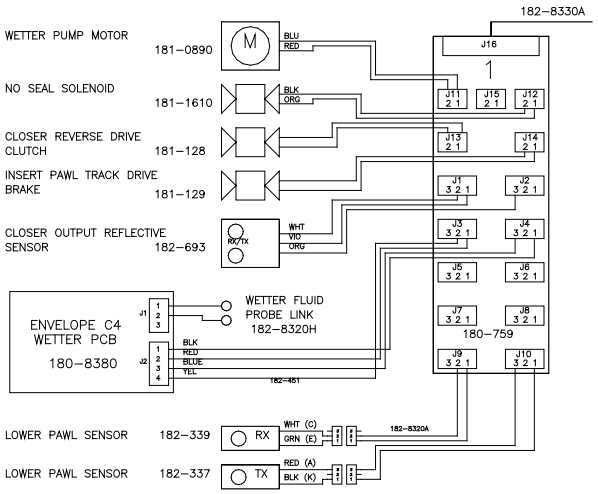
AM4 RIBBON SPLITTER
& MOTOR DISC PCBs

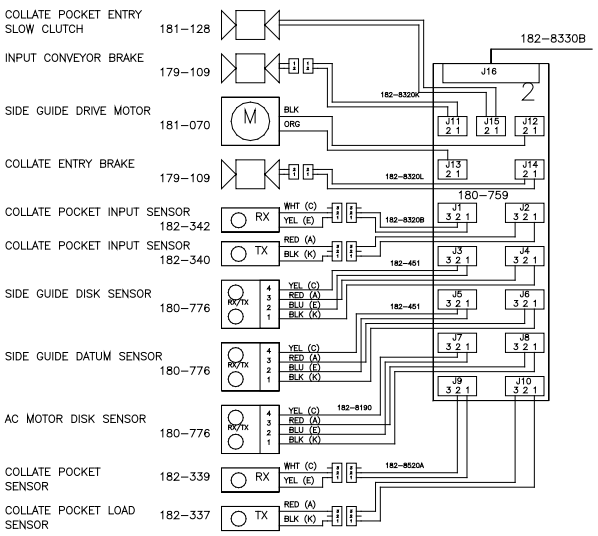
OCTOBER 2003

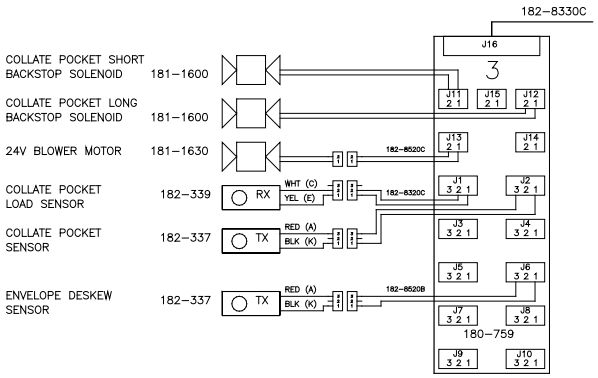


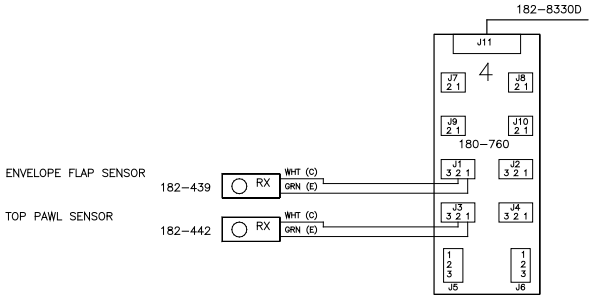
Section 5.11 - Inserter Head Wiring Diagram

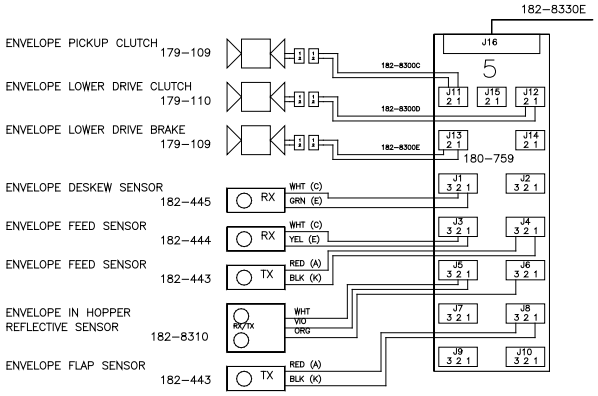
C4 HEAD SPLITTER BOARD WIRING

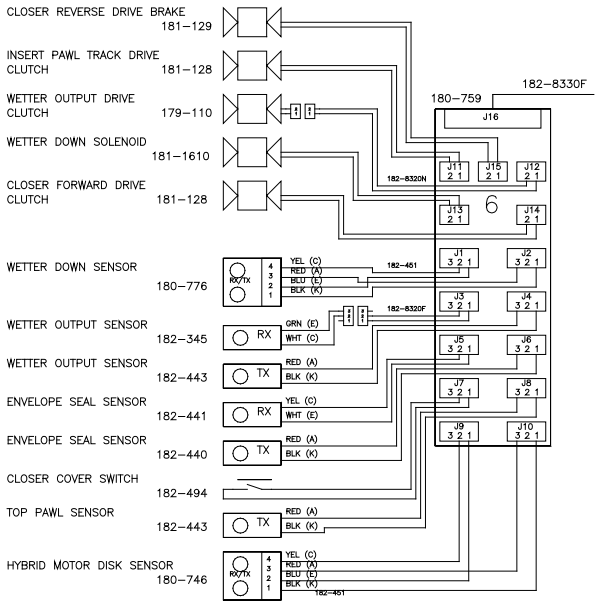


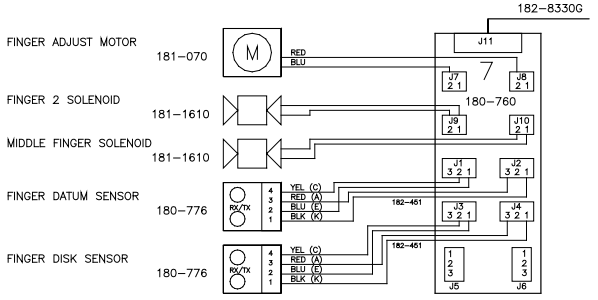

182-8330B
COLLATE POCKET ENTRY SLOW CLUTCH 181-128
INPUT CONVEYOR BRAKE 179-109
SIDE GUIDE DRIVE MOTOR 181-070
COLLATE ENTRY BRAKE 179-109
COLLATE POCKET INPUT SENSOR 182-342
COLLATE POCKET INPUT SENSOR 182-340
SIDE GUIDE DISK SENSOR 180-776
SIDE GUIDE DATUM SENSOR 180-776
AC MOTOR DISK SENSOR 180-776
COLLATE POCKET SENSOR 182-339
COLLATE POCKET LOAD SENSOR 182-337
J16
180-759

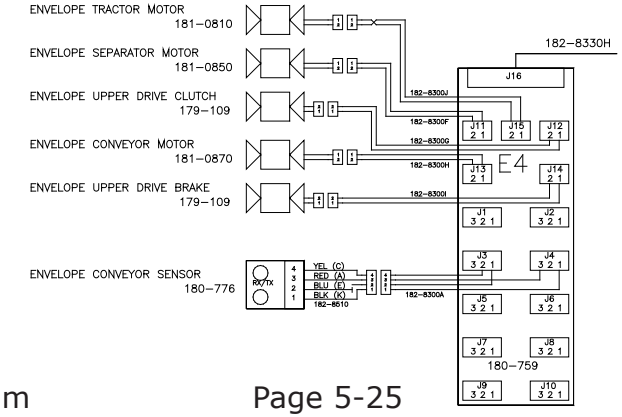


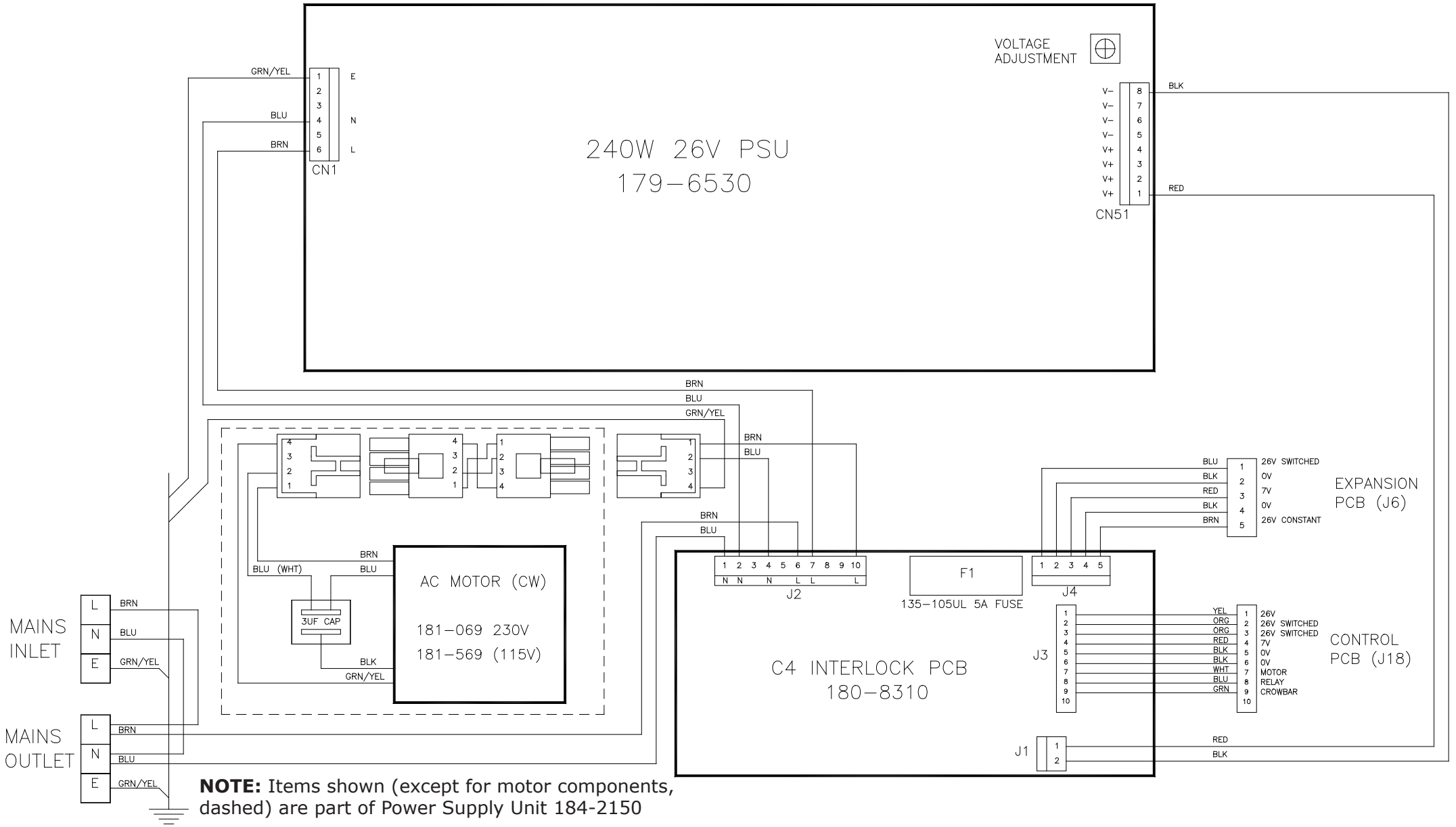












NOTE: Items shown (except for motor components, dashed) are part of Power Supply Unit 184-2150